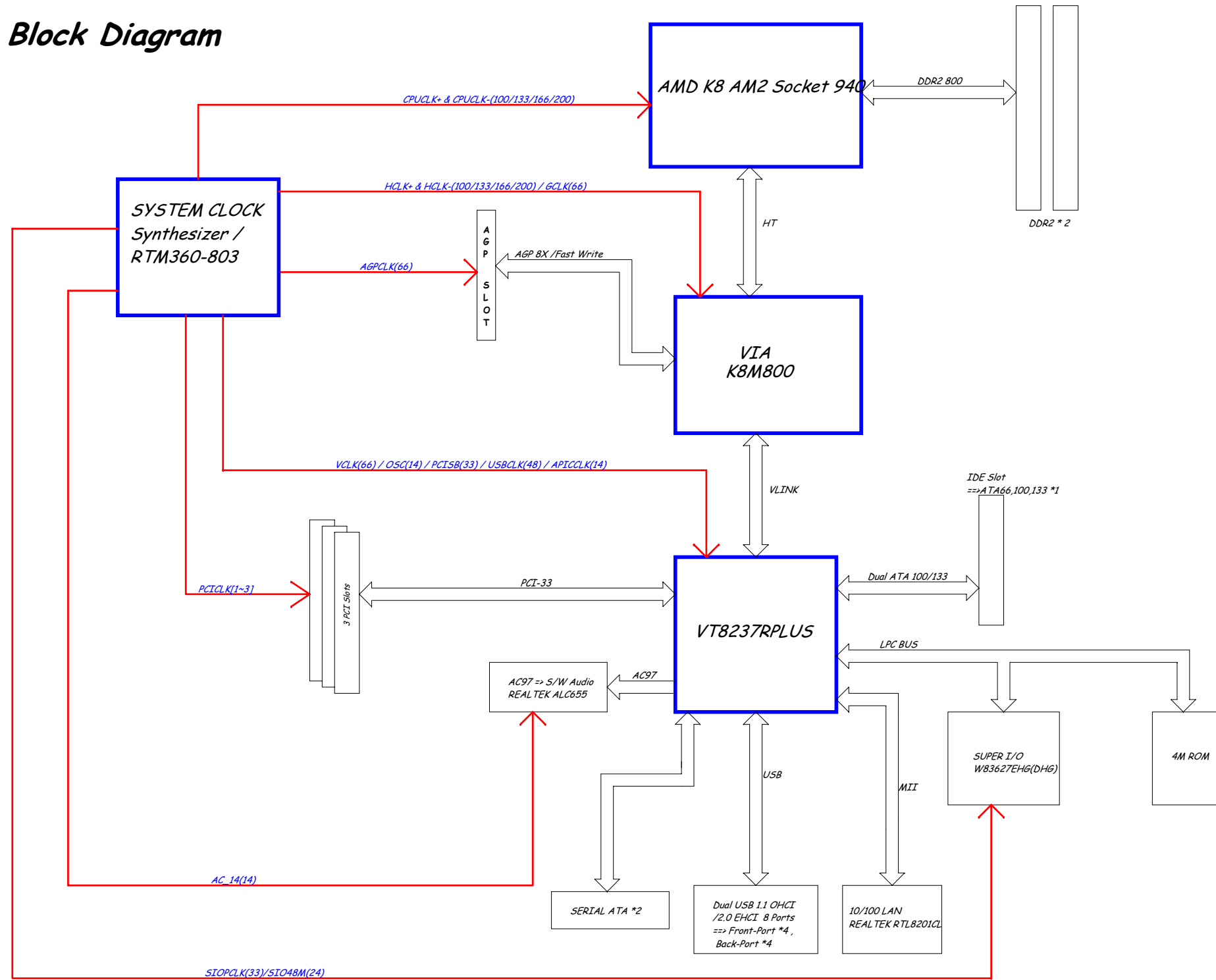


MS-7312 VER:10

- *AMD PGA 940 K8-AM2 (DDR2 800)
- *VIA K8M800
- *VIA VT8237RPLUS (AGP 8X / VLink 8X)
- *Winbond 83627EHG(DHG) LPC I/O
- *REALTEK RT8201CL 10/100 PHY
- *USB 2.0 support (integrated into VT8237R)
- *REALTEK ALC655 AC'97 CODEC
- *DDR2 DIMM * 2
- *AGP SLOT * 1 (8X)
- *PCI SLOT * 3

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Block Diagram



GPIO FUNCTION

PIN NAME	Default Function	Function define
GPO0 (VDDS)	GPO0	NA
GPO1 (VDDS)	GPO1	NA
GPO2/SUSA# (VDDS)	SUSA#	4.7K ohm Pull up to 3VDUAL
GPO3/SUSST# (VDDS)	SUSST#	SUSST# 4.7K ohm Pull up to 3VDUAL
GPO4/SUSCLK (VDDS)	SUSCLK	4.7K ohm Pull up to 3VDUAL
GPO5/CPUSTP#	CPUSTP#	4.7K ohm Pull up to VCC3
GPO6/PCISTP#	PCISTP#	4.7K ohm Pull up to VCC3
GPO7/GNT5	GPO7	2.7K ohm Pull up to VCC3
* GPO8/GPI8/VGATE	GPI8	4.7K ohm Pull up to VCC3
* GPO9/GPI9/UDPWREN	UDPWREN	NA
* GPO10/GPI10/PICD0	GPI10	330 ohm Pull up to VCC3
* GPO11/GPI11/PICD1	GPI11	330 ohm Pull up to VCC3
* GPO12/GPI12/INTE#	GPI12	NA
* GPO13/GPI13/INTF#	GPI13	NA
* GPO14/GPI14/INTG#	GPI14	NA
* GPO15/GPI15/INTH#	GPI15	INTH# 2.7K ohm Pull up to VCC3
GPO20/GPI20/ACSDIN2/PCS0#	GPI20/ACSDIN2	4.7K ohm Pull down
GPO21/GPI21/ACSDIN3/PCS1#/SLPBTN#	GPI21/ACSDIN3	4.7K ohm Pull down
GPO22/GPI22/GHI#	GPI22	4.7K ohm Pull up to VCC3
GPO23/GPI23/DPSLP	GPI23	4.7K ohm Pull up to VCC3
GPO24/GPI24 /GPIOA	GPI24	4.7K ohm Pull down
GPO25/GPI25 /GPIOB	GPI25	4.7K ohm Pull down
GPO26/GPI26/SMBDT2 (VDDS)	SMBDT2	4.7K ohm Pull up to 3VDUAL
GPO27/GPI27/SMBCK2 (VDDS)	SMBCK2	4.7K ohm Pull up to 3VDUAL
GPO28/GPI28/VIDSEL	GPO28 /VIDSEL	SATA_LED
GPO29/GPI29/VRSLP	GPO29 /VRSLP	4.7K ohm Pull down
GPO30/GPI30 /GPIOC	GPI30	4.7K ohm Pull down
GPO31/GPI31 /GPIOD	GPI31	4.7K ohm Pull down

PIN NAME	Default Function	Function define
GPI0 (VBAT)	GPI0	4.7K ohm Pull up to VBAT
GPI1 (VSUS3)	GPI1	ATADET0=>Detect IDE1 ATA100/66
GPI2/EXTSMI# (VSUS3)	EXTSMI#	4.7K ohm Pull up to 3VDUAL
GPI3/RING# (VSUS3)	RING#	4.7K ohm Pull up to 3VDUAL
GPI4/LID# (VSUS3)	LID#	ATADET1=>Detect IDE2 ATA100/66
GPI5/BATLOW# (VDDS)	BATLOW#	4.7K ohm Pull up to 3VDUAL
GPI6/AGPBZ	AGPBZ	4.7K ohm Pull up to VCC3
GPI7/REQ5	GPI7	2.7K ohm Pull up to VCC3
* GPI8/VGATE	GPI8	4.7K ohm Pull up to VCC3
* GPI9/UDPWREN	UDPWREN	NA
* GPI10/PICD0	GPI10	330 ohm Pull up to VCC3
* GPI11/PICD1	GPI11	330 ohm Pull up to VCC3
* GPI12/INTE#	GPI12	NA
* GPI13/INTF#	GPI13	NA
* GPI14/INTG#	GPI14	NA
* GPI15/INTH#	GPI15	INTH# 2.7K ohm Pull up to VCC3
GPI16/INTRUDER# (VBAT)	INTRUDER#	1M ohm Pull up to VBAT
GPI17/CPUMISS	CPUMISS	4.7K ohm Pull up to 3VDUAL
GPI18/AOLGP1/THRM#	AOLGP1	THRMS# 4.7K ohm Pull up to 3VDUAL
GPI19/APICCLK	APICCLK	APICCLK

PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK	CLK GEN PIN OUT
PCI Slot 1	INTA# INTB# INTC# INTD#	PREQ#0 PGNT#0	AD19	PCICK1	17 (PCICK2)
PCI Slot 2	INTB# INTC# INTD# INTA#	PREQ#1 PGNT#1	AD20	PCICK2	18(PCICK3)
PCI Slot 3	INTC# INTD# INTA# INTB#	PREQ#2 PGNT#2	AD21	PCICK3	21 (PCICK4)

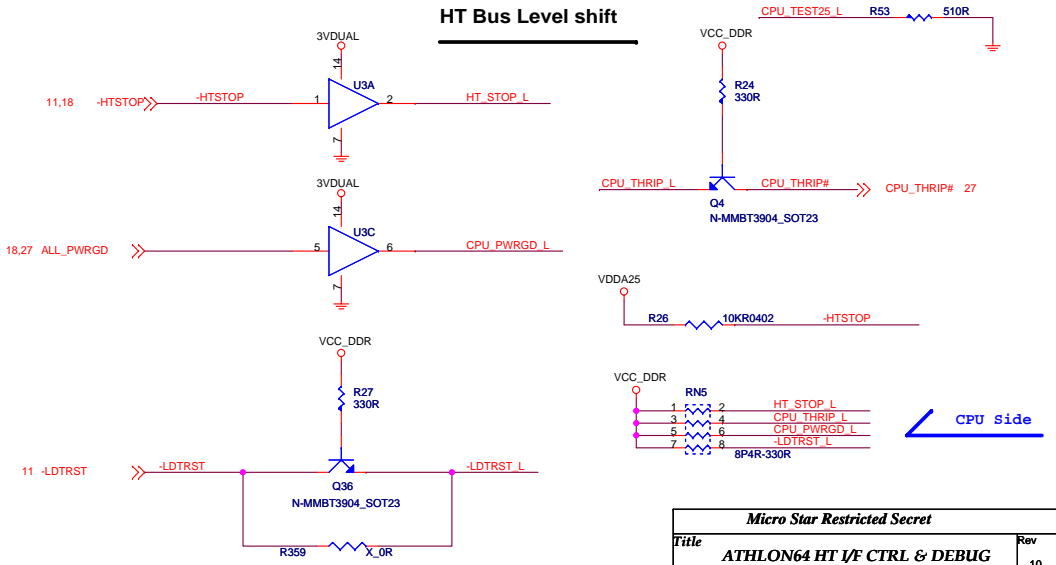
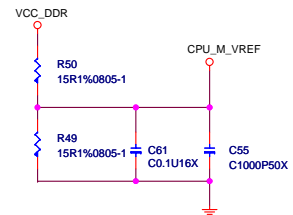
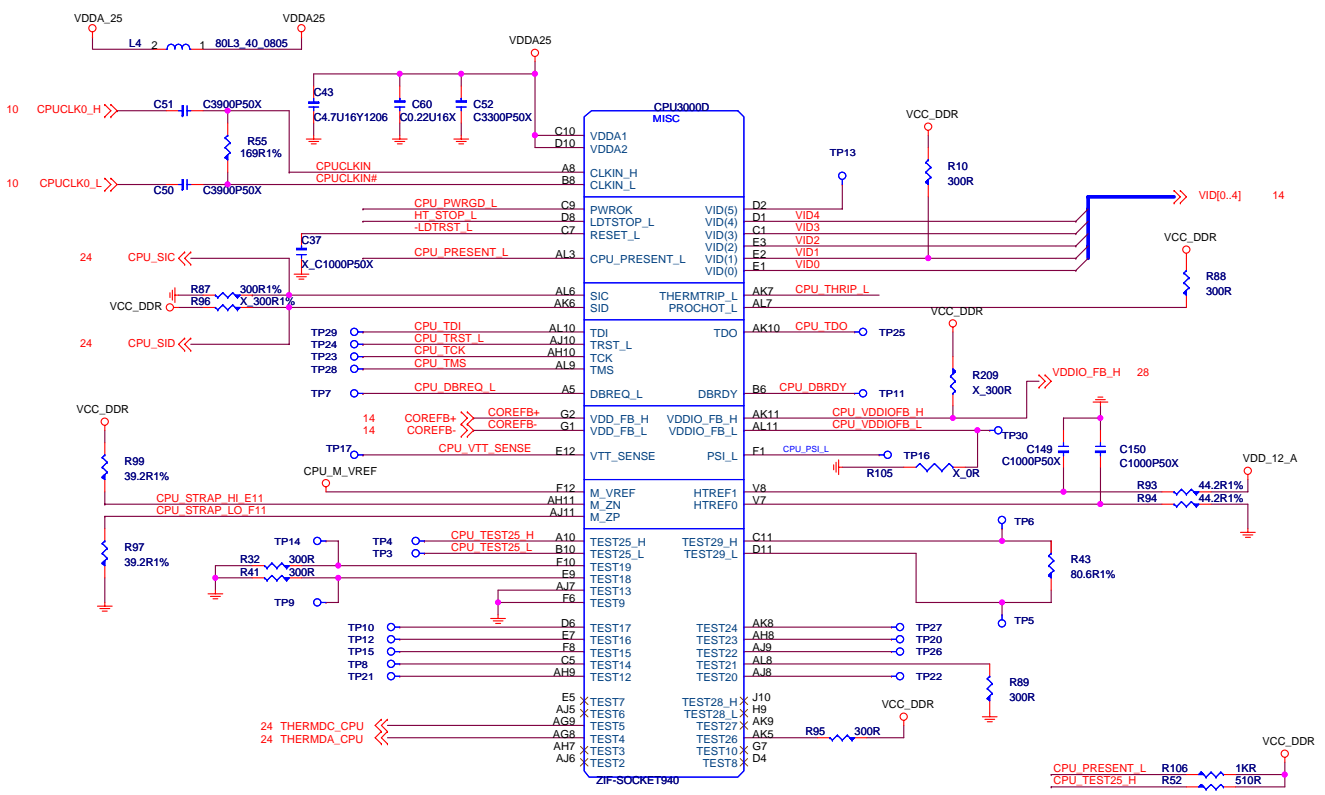
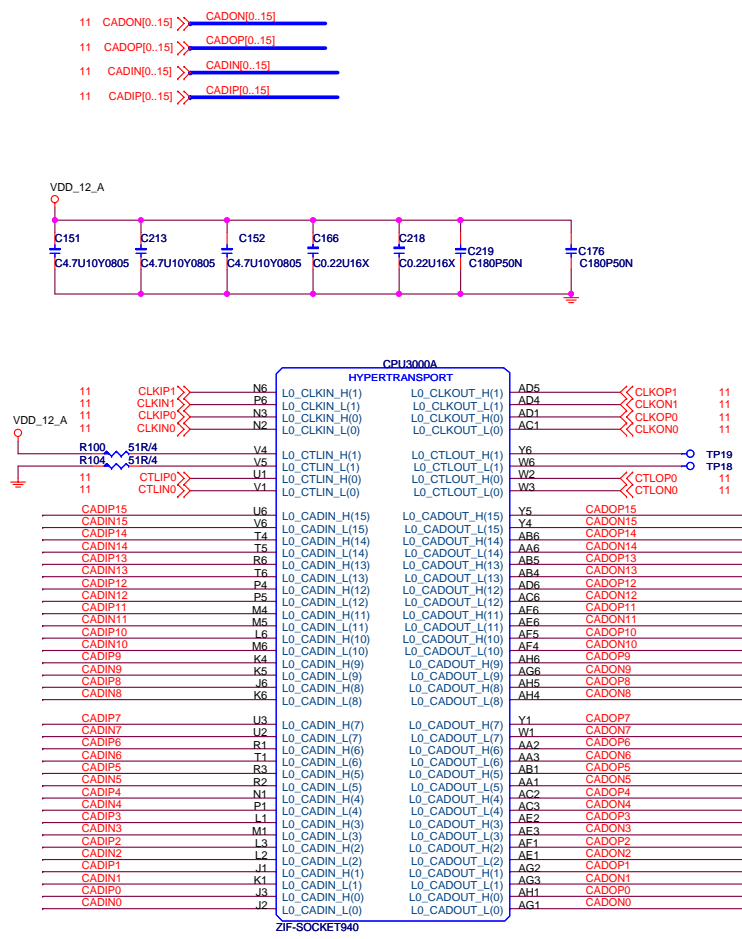
USB	Port	DATA +/-	OC#
Rear	USB1	USB1- USB1+ USB0- USB0+	USB_OC#1 (OC#0~1)
	LAN_USB1	USB2- USB2+ USB3- USB3+	USB_OC#2 (OC#2~3)
Front	JUSB1	USB4- USB4+ USB5- USB5+	USB_OC#5 (OC#4~3)
	JUSB2	USB6- USB6+ USB7- USB7+	

PCI RESET DEVICE

Signals	Target
PCISLOTIRST#	PCI slot 1-3
PCIDEVRST#	NB , Super I/O
HDDRST#	Primary IDE
PCIRST#	AGP SLOT

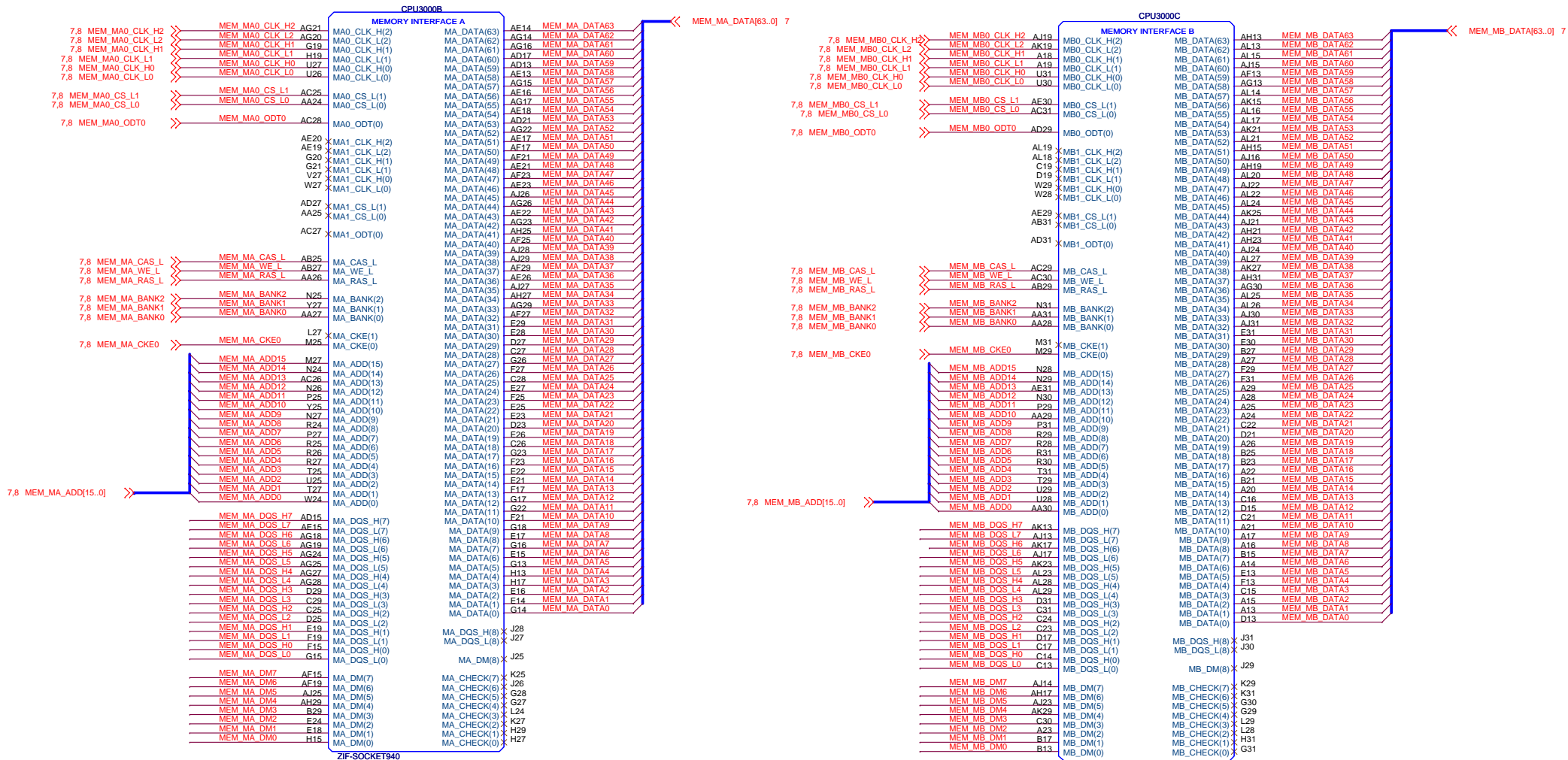
DDR DIMM Config.

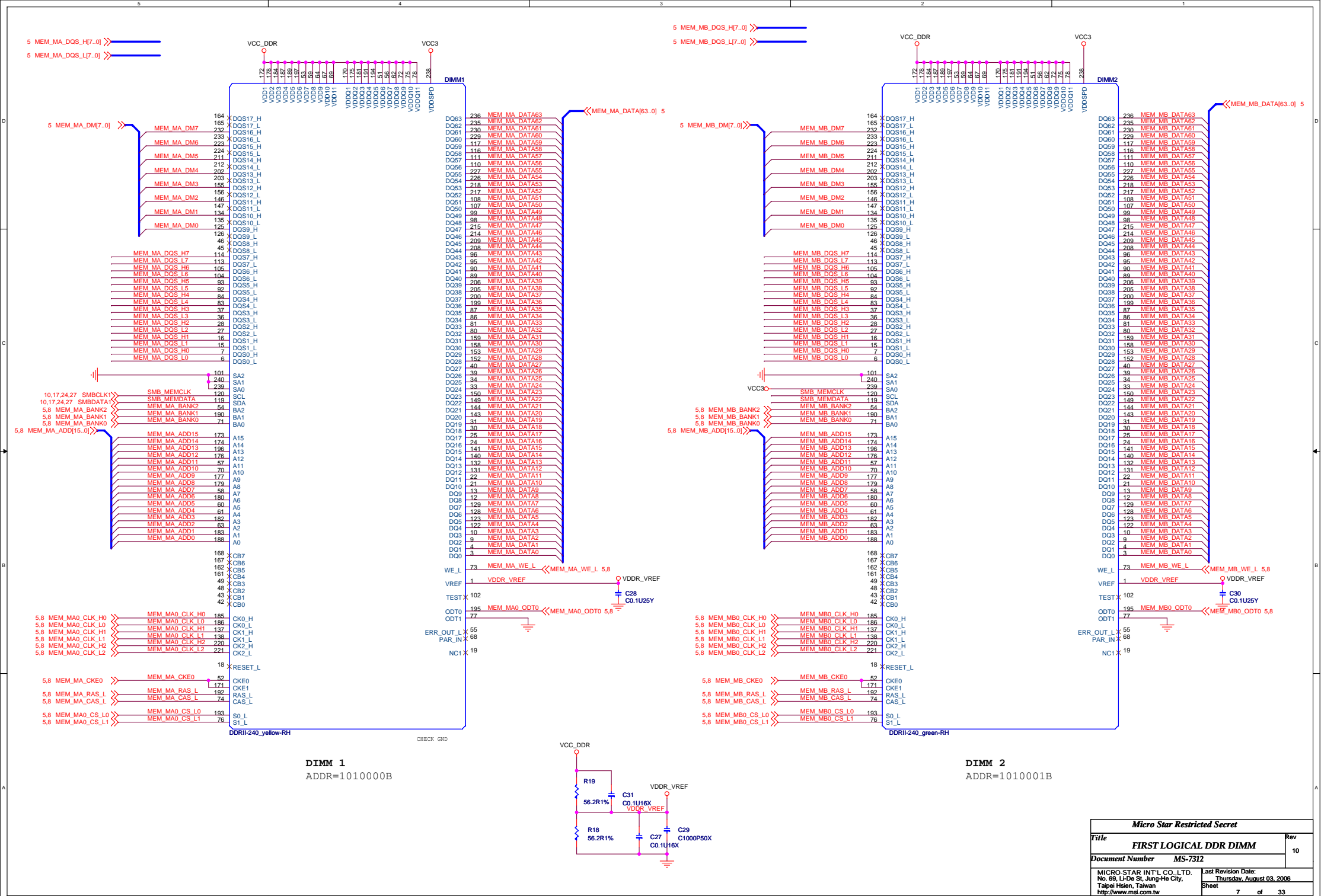
DEVICE	ADDRESS	CLOCK
DIMM 1	1010000XB	MEM_MAO_CLK_H2 MEM_MAO_CLK_L2 MEM_MAO_CLK_H1 MEM_MAO_CLK_L1 MEM_MAO_CLK_H0 MEM_MAO_CLK_LO
DIMM 2	1010001XB	MEM_MBO_CLK_H2 MEM_MBO_CLK_L2 MEM_MBO_CLK_H1 MEM_MBO_CLK_L1 MEM_MBO_CLK_H0 MEM_MBO_CLK_LO



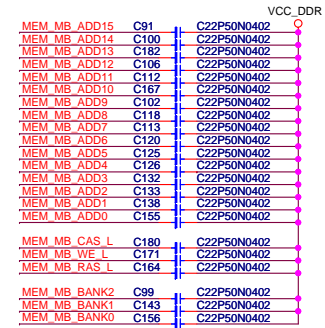
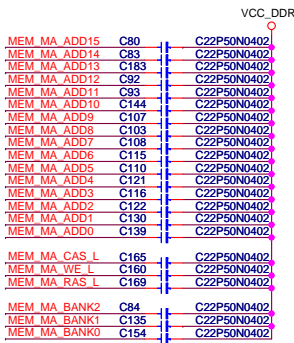
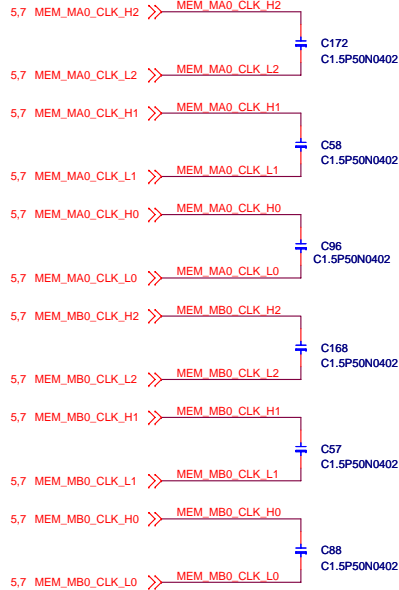
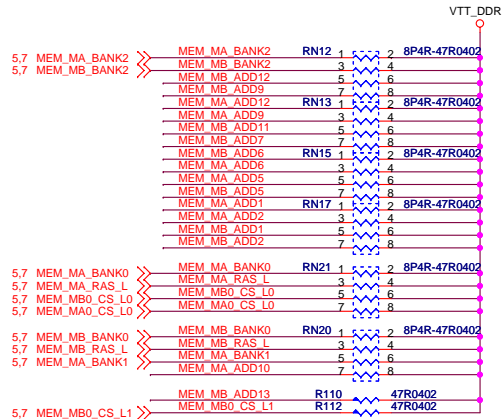
7 MEM_MA_DQS_L[7..0] >>>
7 MEM_MA_DQS_H[7..0] >>>
7 MEM_MA_DM[7..0] >>>

7 MEM_MB_DQS_L[7..0] >>>
7 MEM_MB_DQS_H[7..0] >>>
7 MEM_MB_DM[7..0] >>>





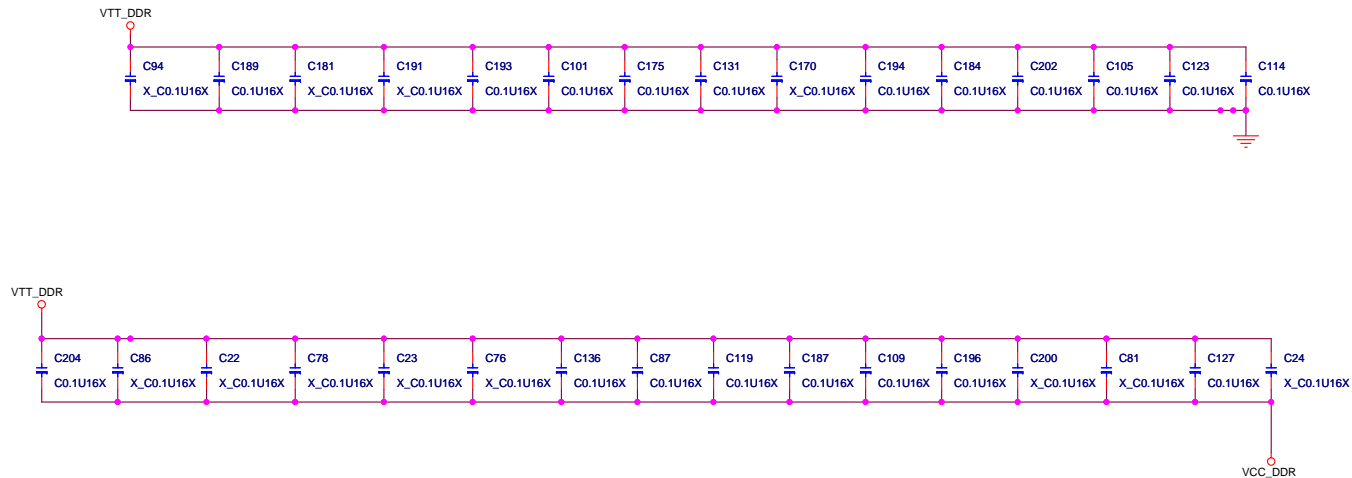
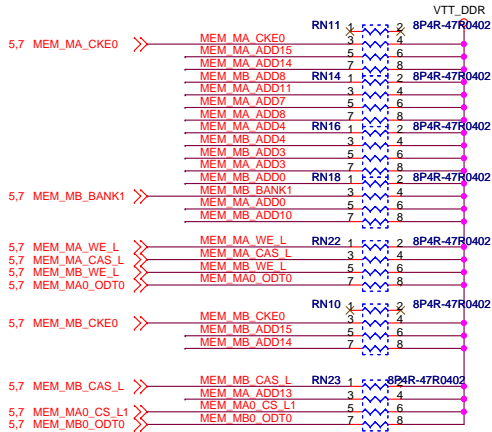
5.7 MEM_MA_ADD[15.0] >>>



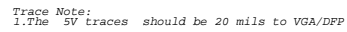
Decoupling Between Processor and DIMMs

Layout: Spread out on VTT pour

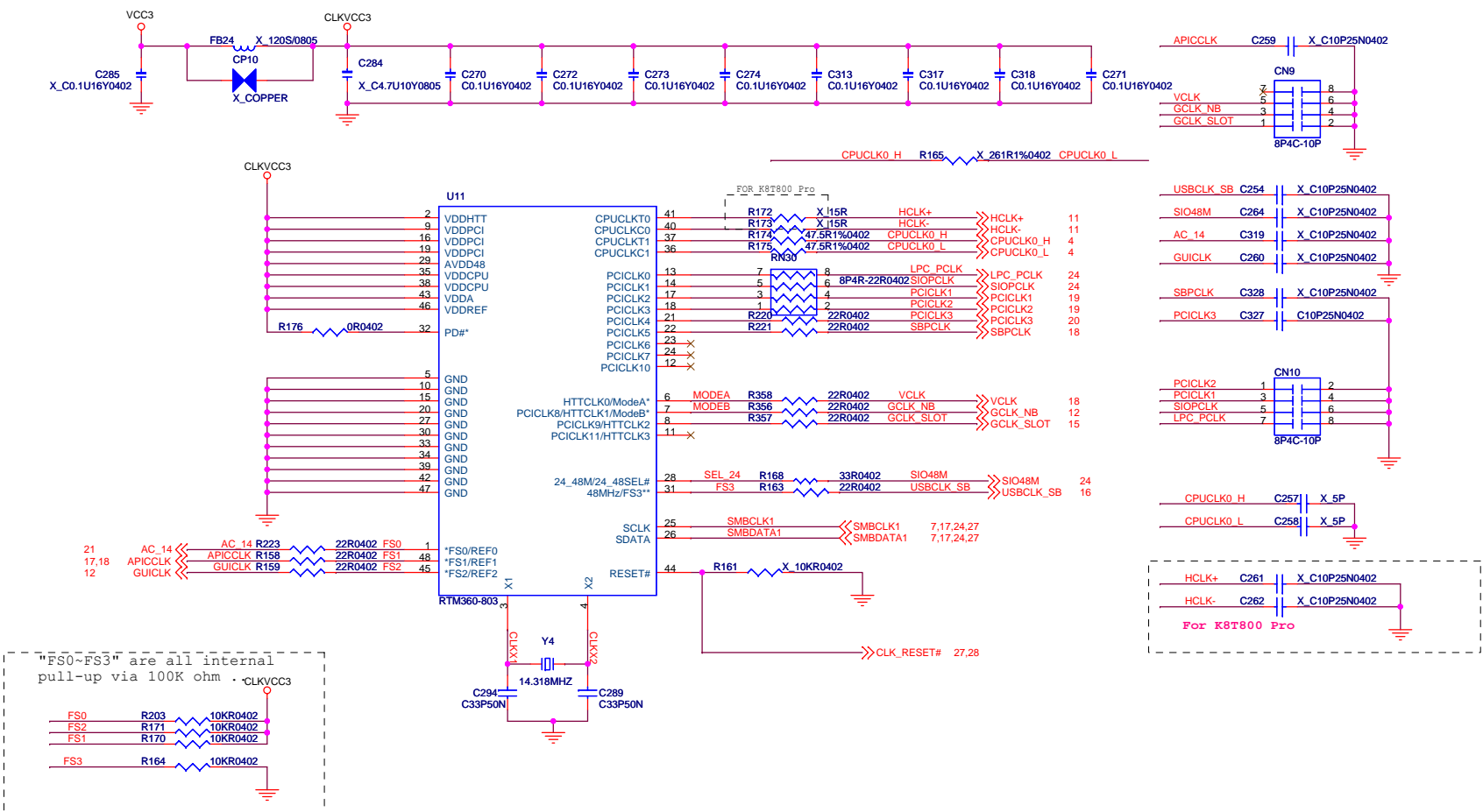
5.7 MEM_MB_ADD[15.0] >>>



Use K8T800Pro remove all components



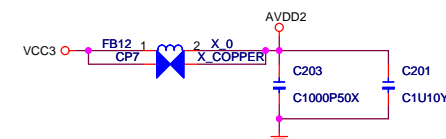
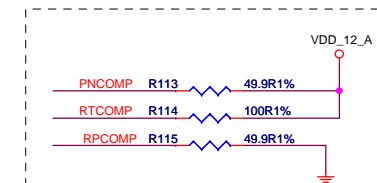
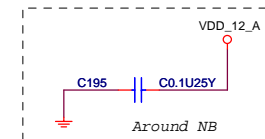
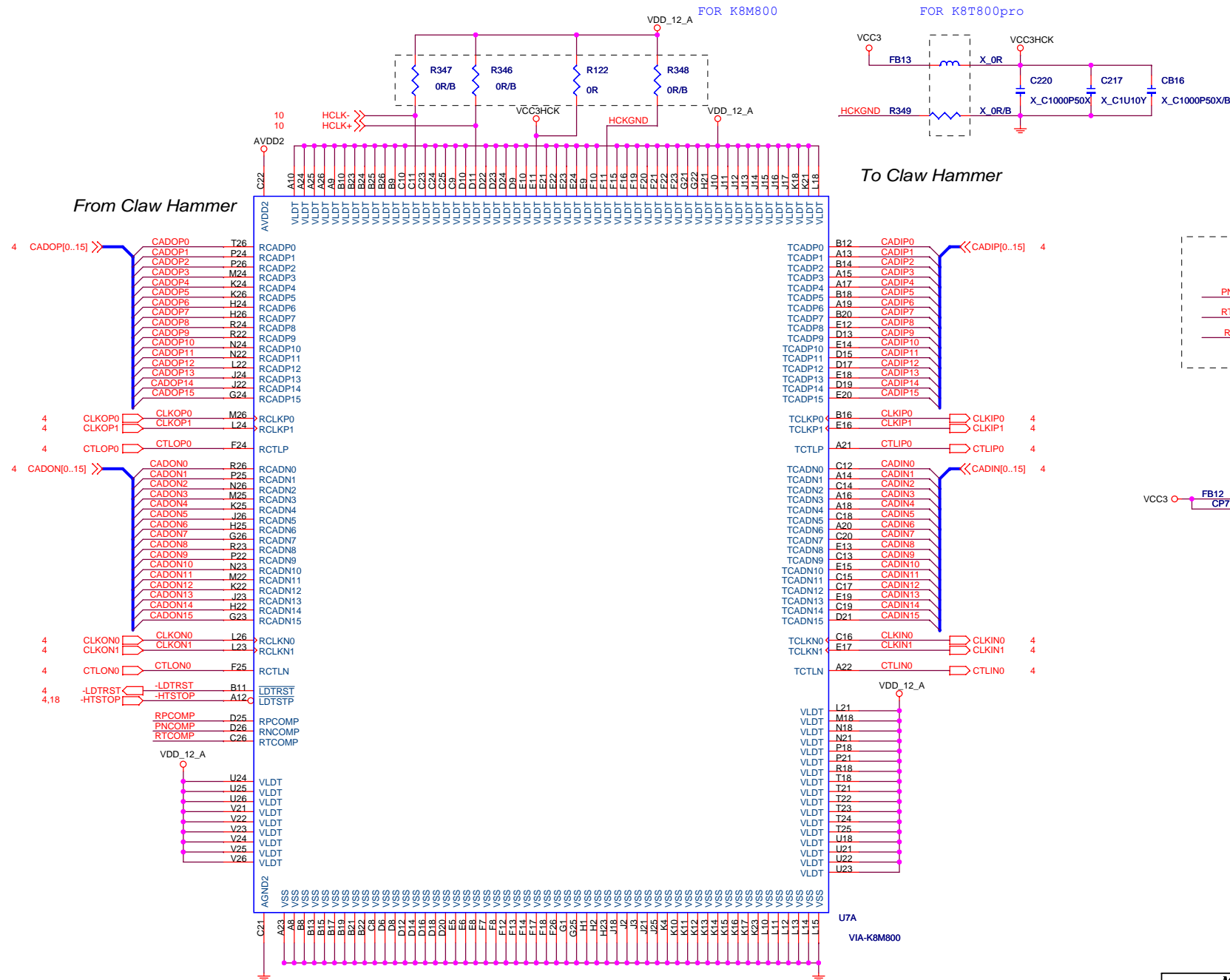
Clock Synthesizer



FS(3:0)	CPU	HTT	PCI
0000	100.90	67.27	33.63
0001	133.90	66.95	33.48
0010	168.00	67.20	33.60
0011	202.00	67.33	33.67
0100	100.20	66.80	33.40
0101	133.50	66.75	33.38
0110	166.70	66.68	33.34
0111	200.40	66.80	33.40
1000	150.00	60.00	30.00
1001	180.00	60.00	30.00
1010	210.00	70.00	35.00
1011	240.00	60.00	30.00
1100	270.00	67.50	33.75
1101	233.33	66.67	33.33
1110	266.67	66.67	33.33
1111	300.00	75.00	37.50

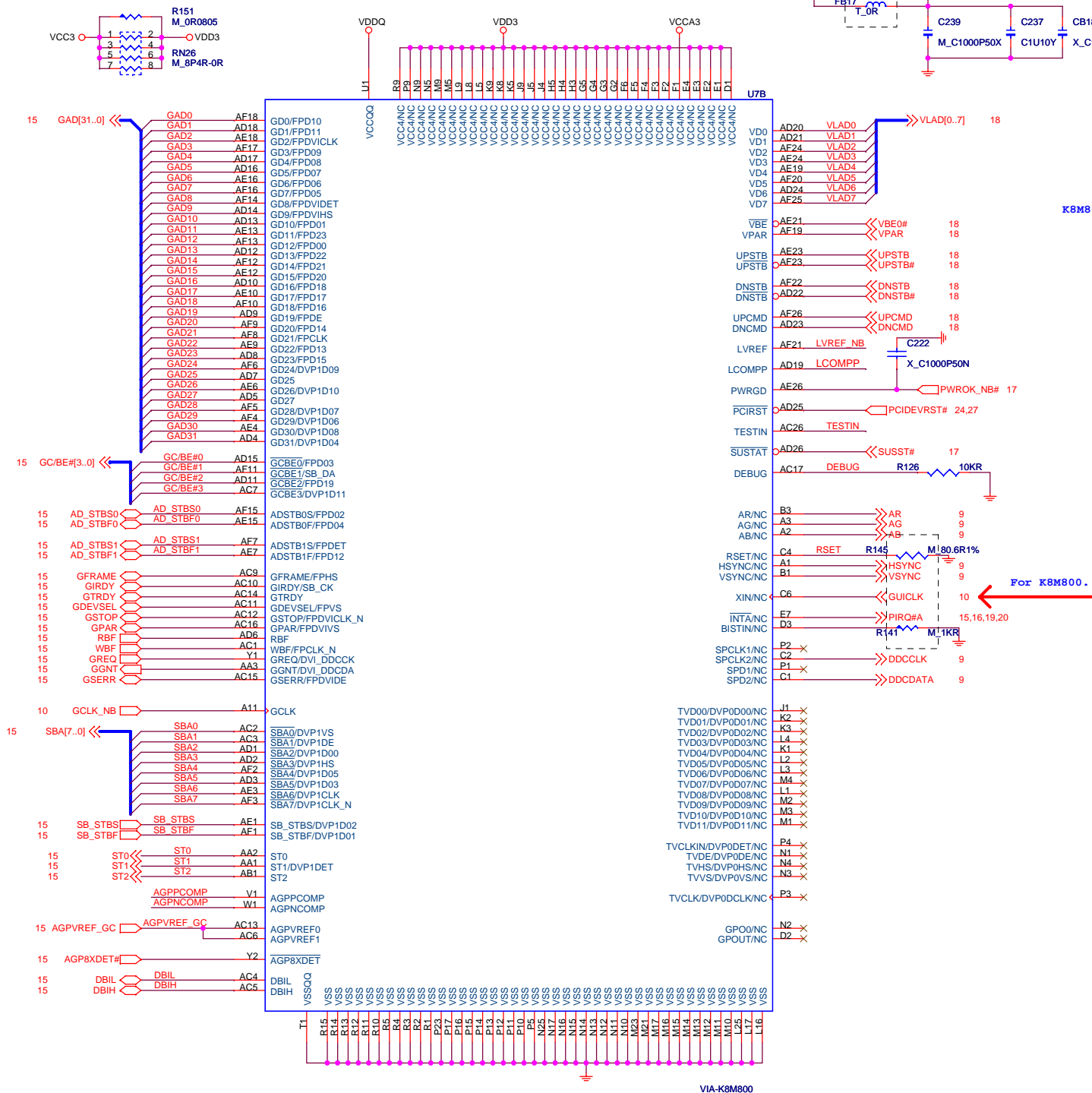
MODE A	MODE B	PIN7	PIN8	PIN11
0	0	HTTCLK1	HTTCLK2	PCICLK11
0	1	HTTCLK1	HTTCLK2	HTTCLK3
1	0	PCICLK8	PCICLK9	PCICLK11
1	1	HTTCLK1	PCICLK9	PCICLK11

SEL_24	PIN28
0	48M
1	24M



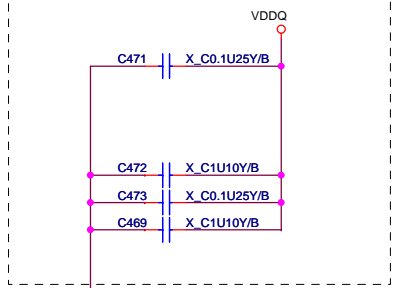
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Document Number	MS-7312	
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Sheet 11 of 33		

K8M800/K8T800pro AGP 8X ,V-Link, Misc. Control

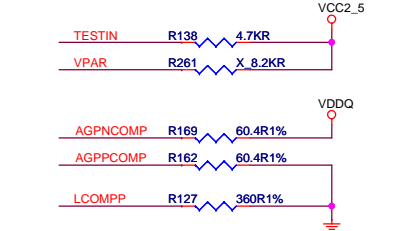
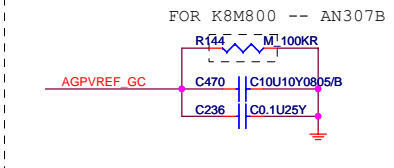


K8M800 and K8T800pro will be 0.625V(R153=1k8T,R11-0102T13-Y01)

LAYOUT: Place caps on the bottom of NB



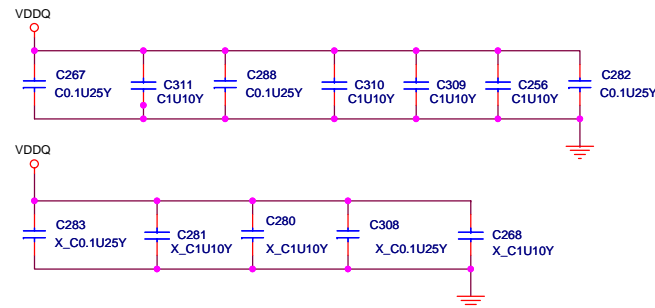
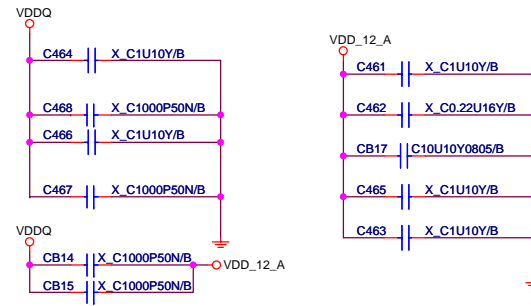
LAYOUT: Place caps as close NB as possible



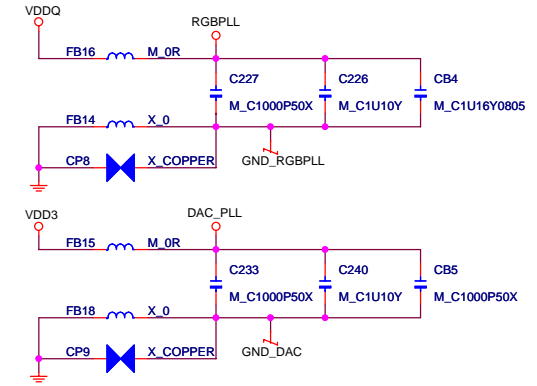
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Document Number	MS-7312	
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, August 08, 2006 Sheet 12 of 33

Power and Ground Connections

LAYOUT : Populate caps on the bottom side of NB.

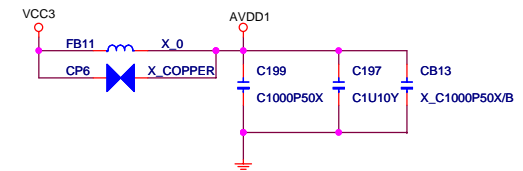


For K8M800 Only



Note: When use K8T800, these power circuit for GFX analog power should be NOPOPed.

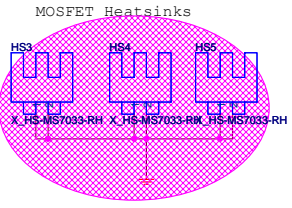
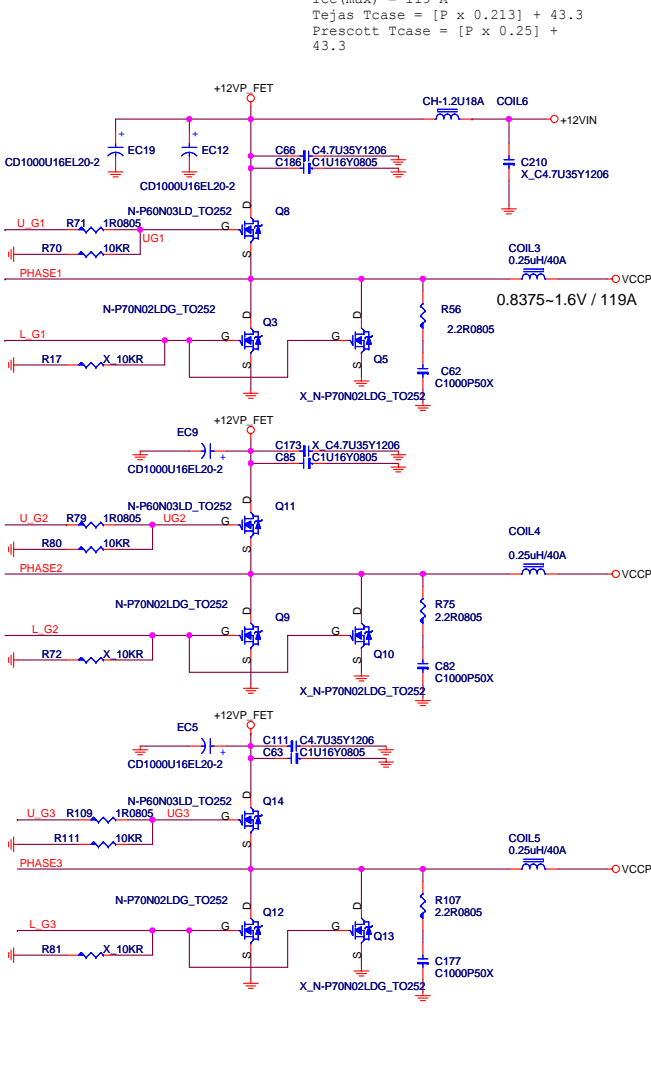
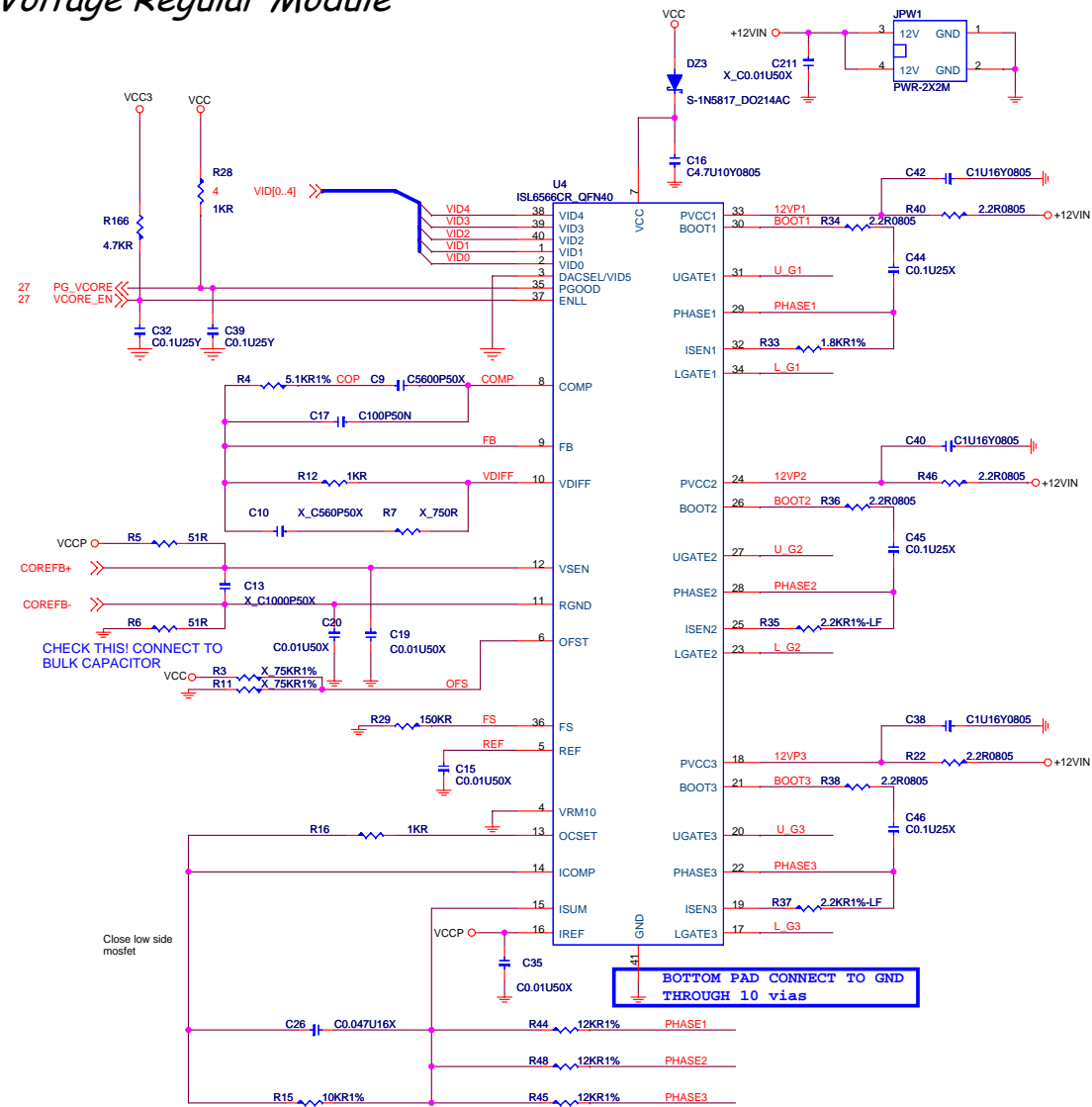
For K8M800/K8T800 Pro Only



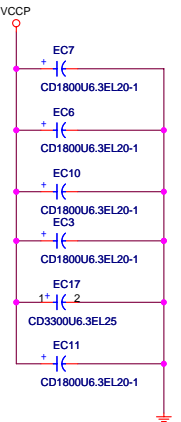
Micro Star Restricted Secret

Title		Rev
NORTH BRIDGE (POWER/GROUND)		10
Document Number		MS-7312
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006
Sheet		13 of 33

Voltage Regular Module



EL Capacitors

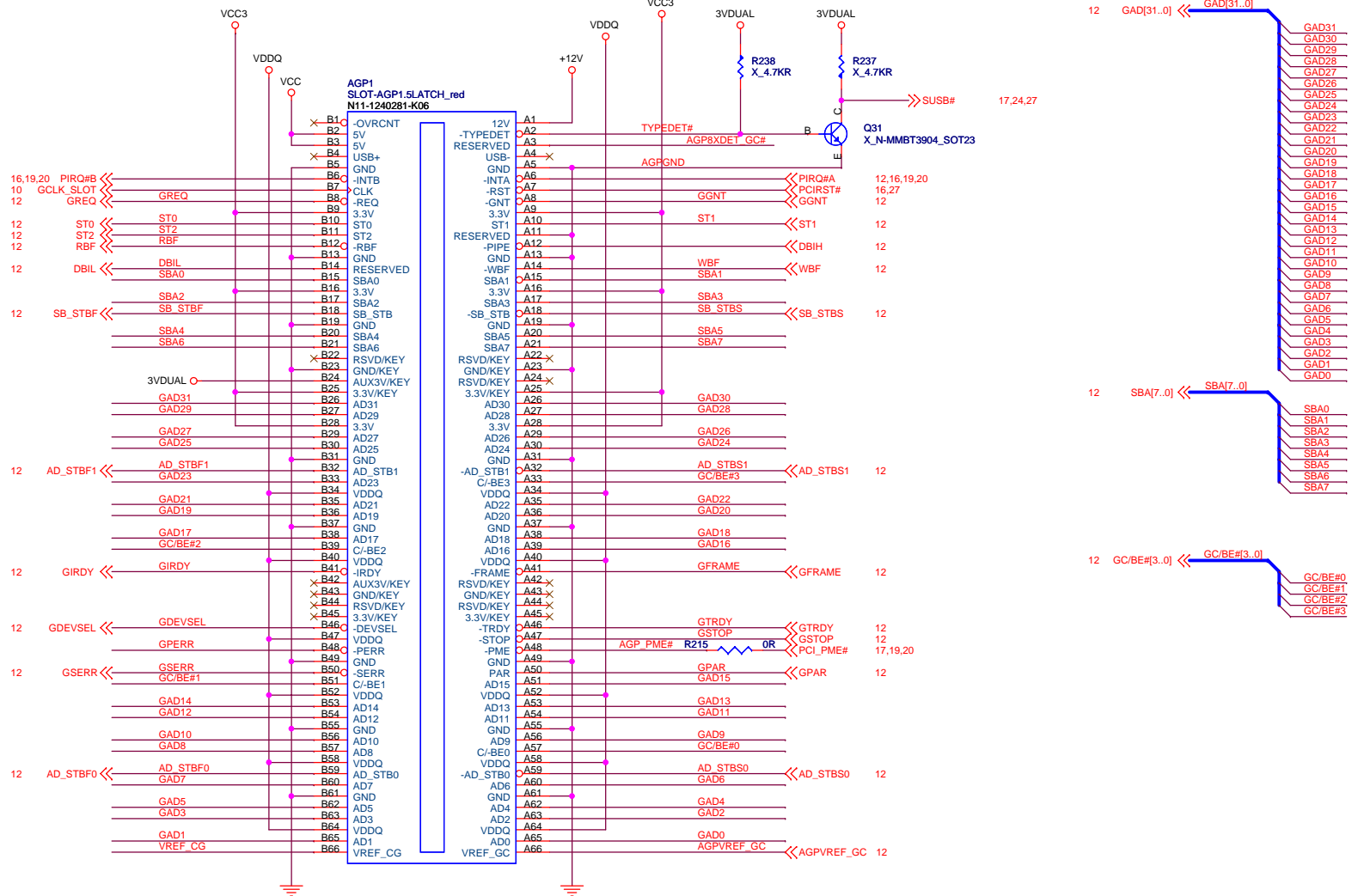
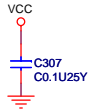


IPF06N03LA	Rds (on)=8.7mΩ (@4.5V, 30A), Vgs (on)=1.2~2V, Id=50A, Ciss=3110pf, Qg=10nC, Vds=25V, Vgs=±20V
C100U2SP	ESR<13mΩ, Ripple cur.<2.7A, LC<12uA, 105C
.CD3300U6.3EL25	ESR<12mΩ, Ripplecur.<2800mA, 105C, longlife3000hrs, KZGSeries
560u_2.5V	ESR=6mΩ, Ripplecur.=4400mA, Lc.<500uA, 105C/2000hrs
1800UF/6.3V	ESR<12mΩ, Ripplecur<2350mA, 105C, longlife change from 2000hrs to 3000hrs ,KZJ series
0.6uH/40A	0.6u/20%, Isat=40A, Rdc=1.2m ohm, PEW wire
CH-1.2U18A	1.2u/20%, Dip-2/vertical 17.5mm, 1.2ψ/5.5turns, 18A

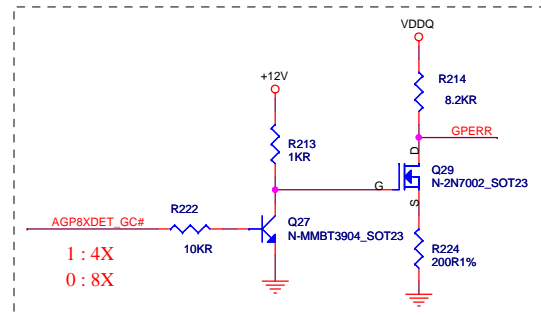
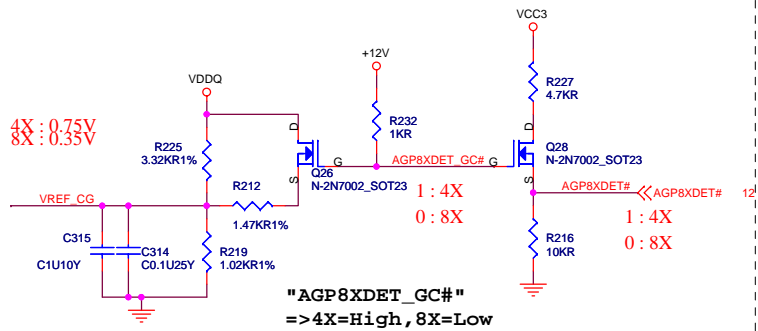
TDP = 115 W
VR_TDC = 101 A
Icc(max) = 119 A
Tejas Tcase = [P x 0.213] + 43.3
Prescott Tcase = [P x 0.25] + 43.3

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AGP PRO Connector

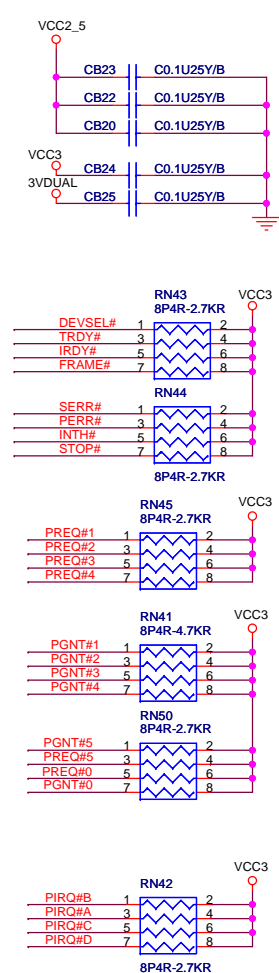
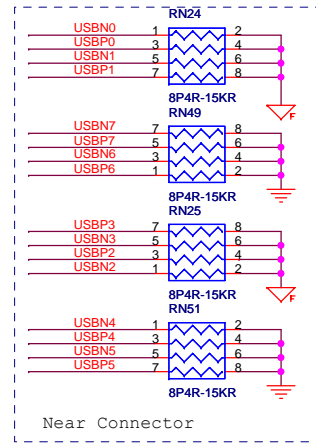
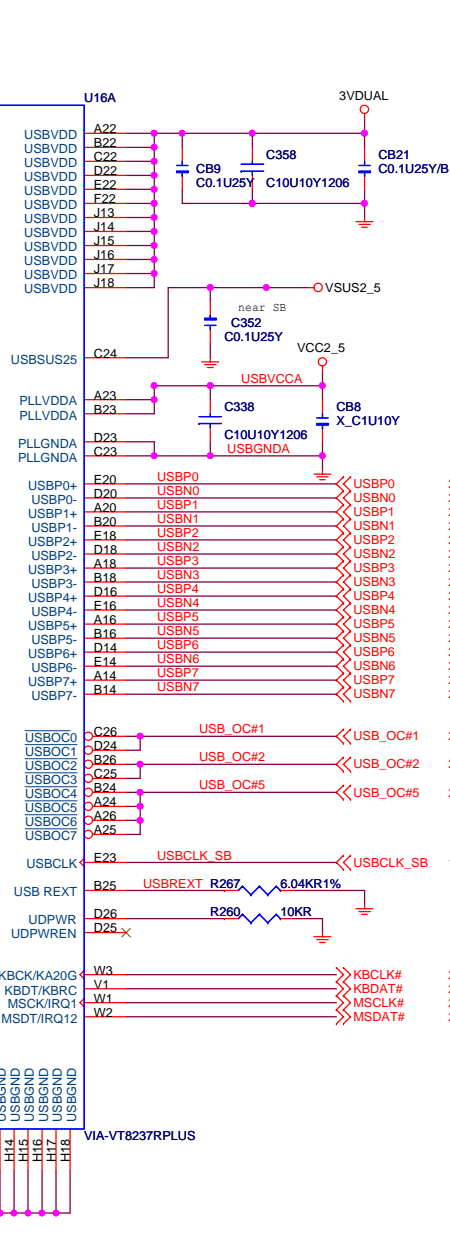
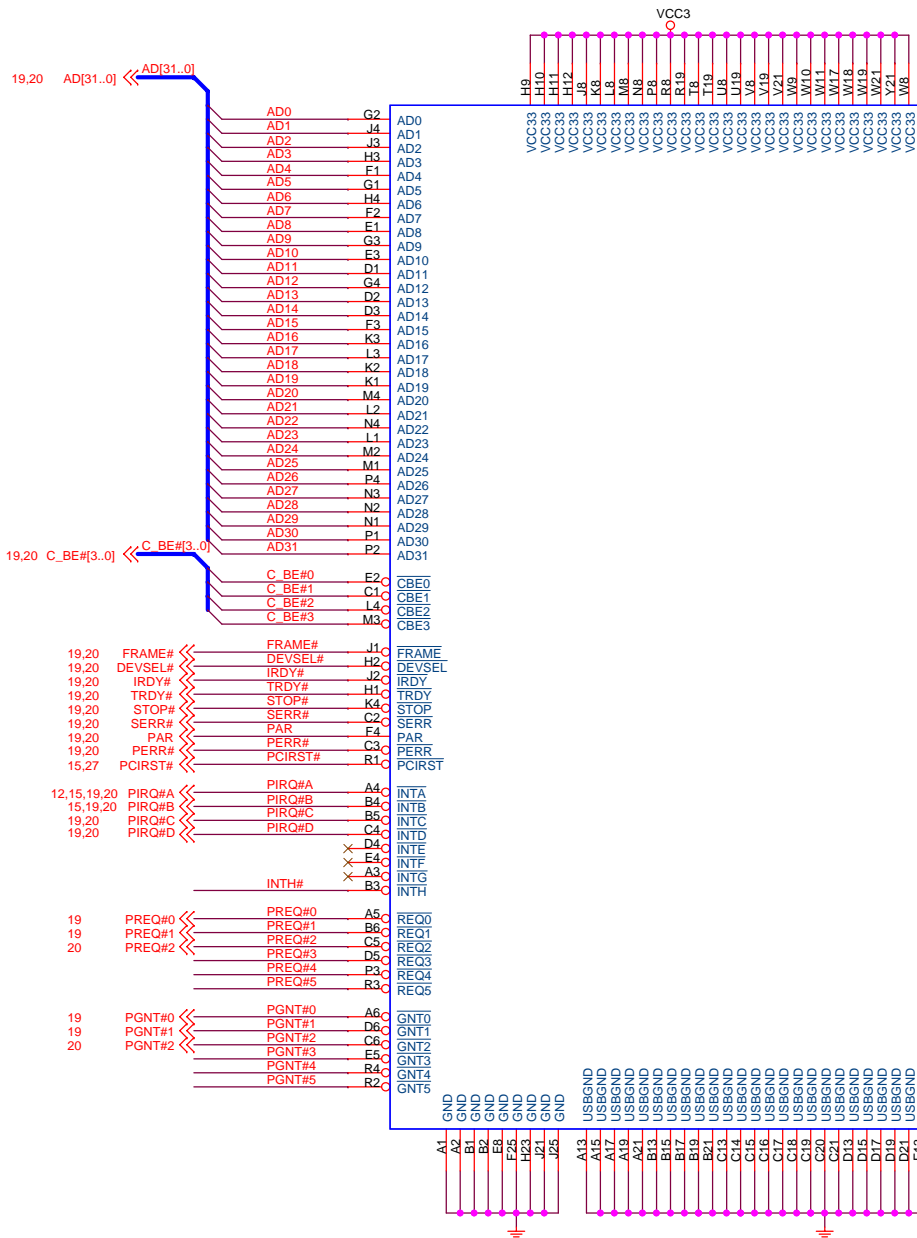


```
AGP "Vref" => 4X : 0.5*1.5V=0.75 Volt ,
               8X : 0.23*1.5 =0.345 Volt
```

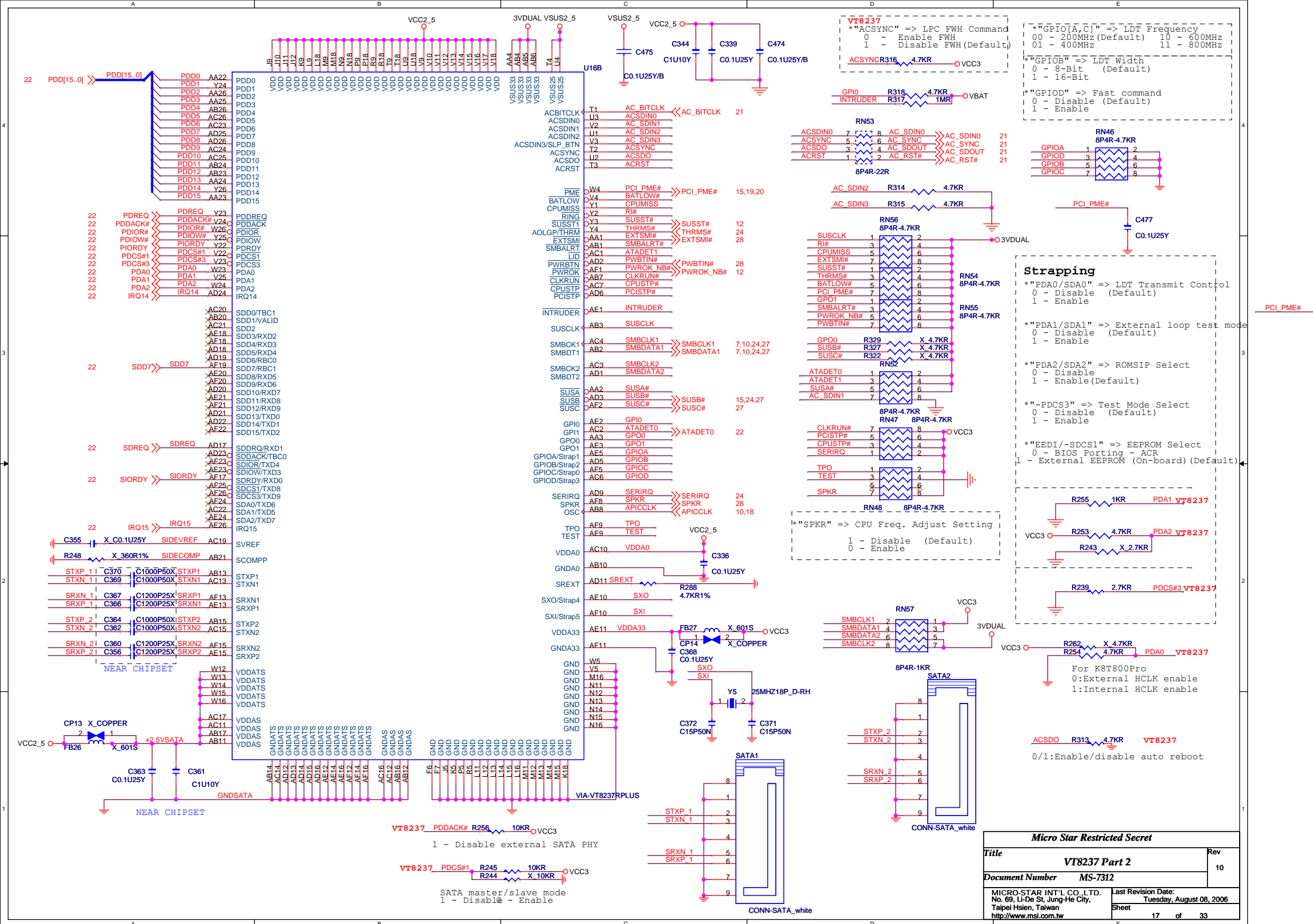


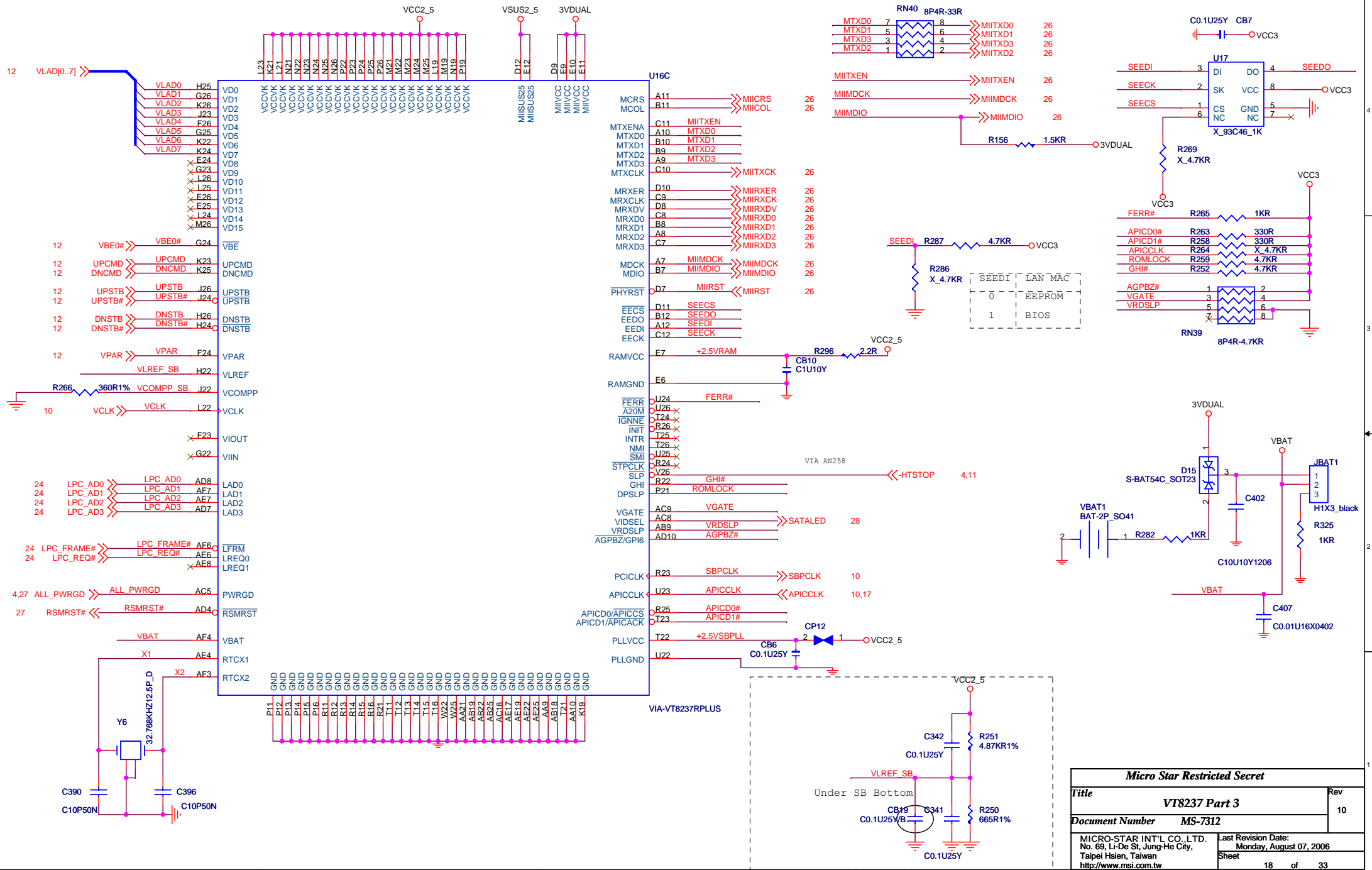
<i>Add-in Card Power</i>				
	<i>I_{max}</i>	<i>V_{Min}</i>	<i>V_{Max}</i>	<i>Units</i>
<i>VDDQ</i>	2.0A	1.425	1.575	V
<i>VCC3</i>	6.0A	3.15	3.45	V
<i>3VDUAL</i>	0.75A	3.15	3.45	V
<i>VCC5</i>	2.0A	4.75	5.25	V
<i>VCC12</i>	1.0A	11.4	12.6	V

<i>Micro Star Restricted Secret</i>			
Title AGP PRO Slot			Rev
Document Number MS-7312			10
MICRO-STAR INT'L CO., LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006	
		Sheet	15 of 33

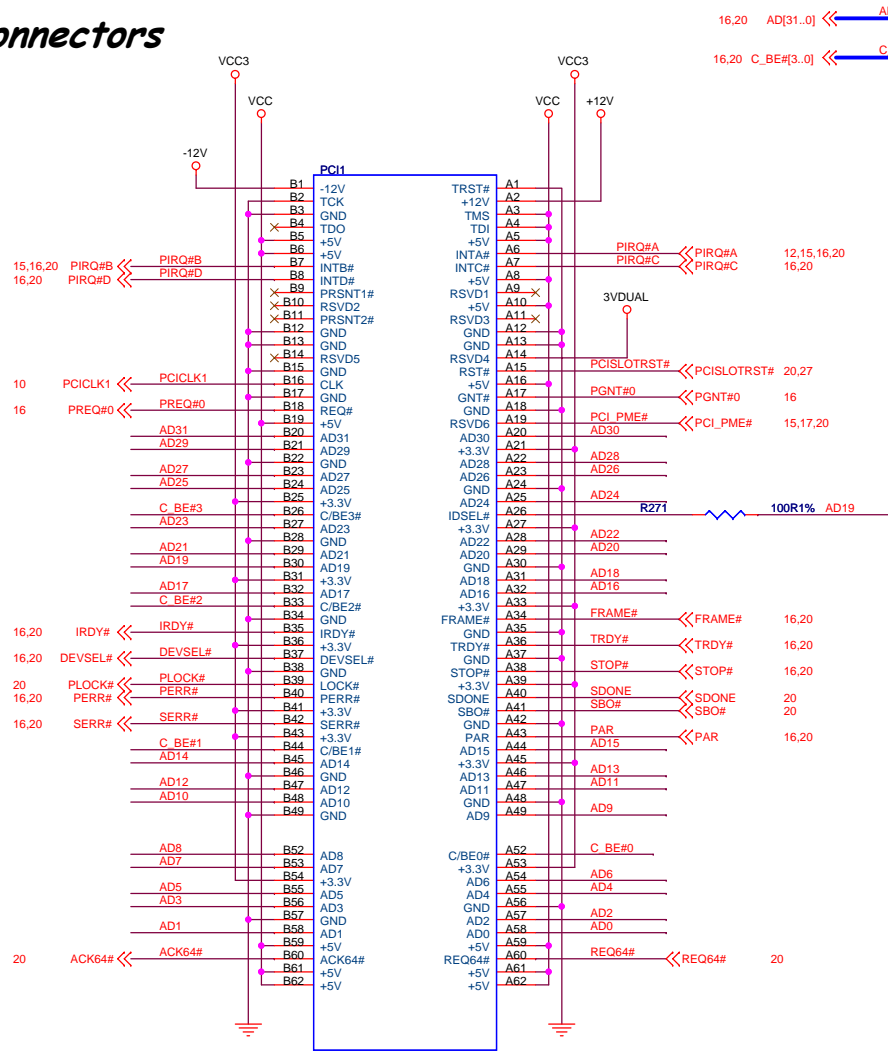


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Document Number	MS-7312	
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St, Jung-He City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006 Sheet 16 of 33

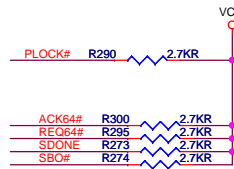




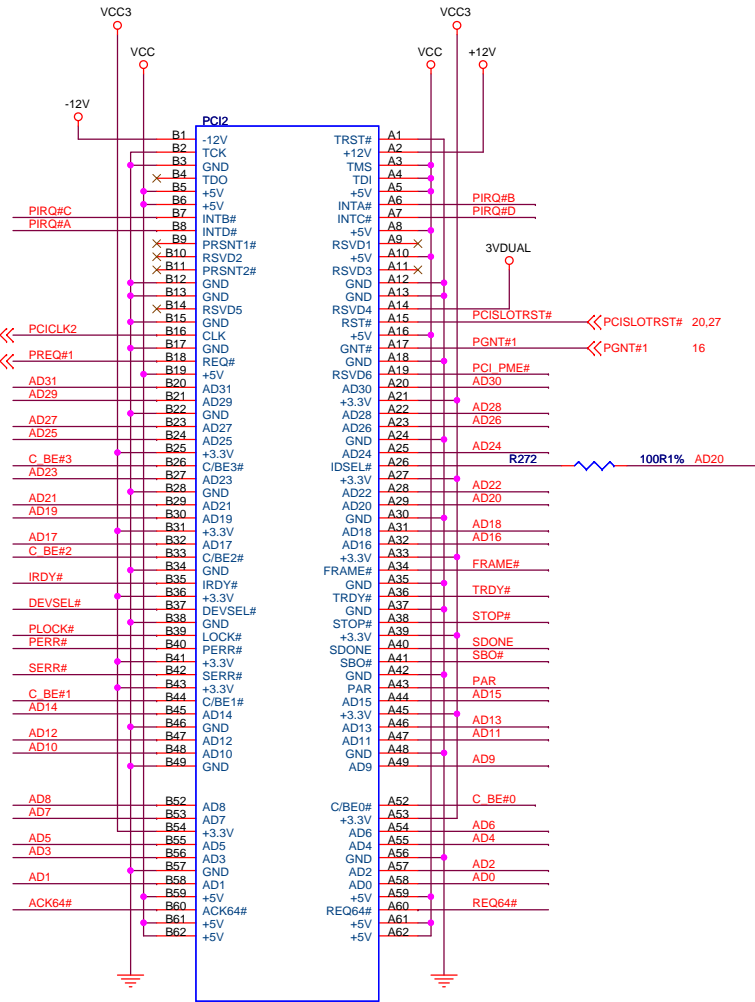
PCI Connectors



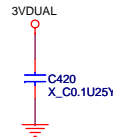
IDSEL#=AD19
INT#=A, B, C, D



AD[31..0] << AD[31..0]
C_BE#[3..0] << C_BE#[3..0]

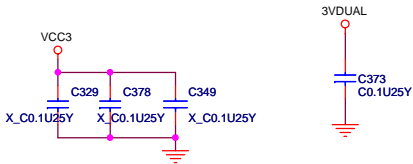
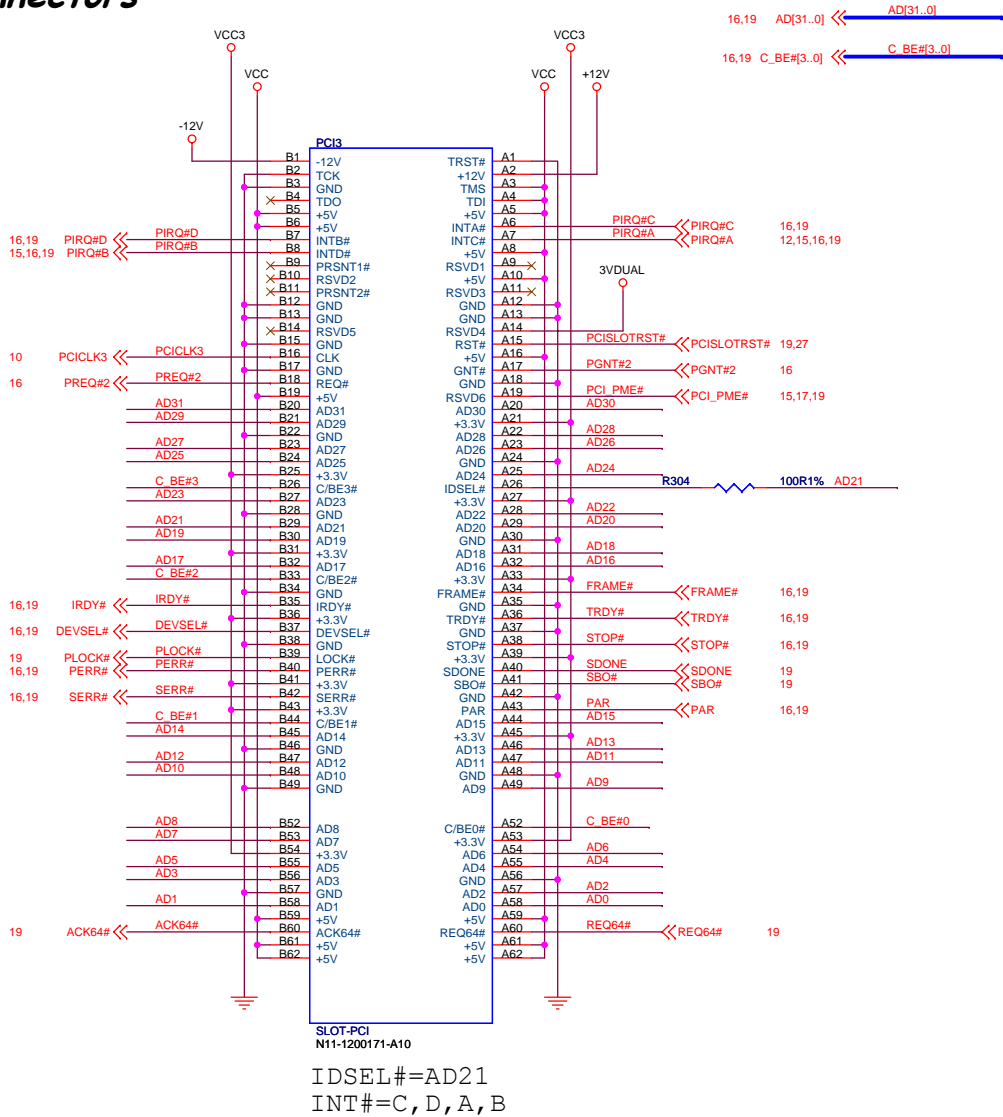


IDSEL#=AD20
INT#=B, C, D, A



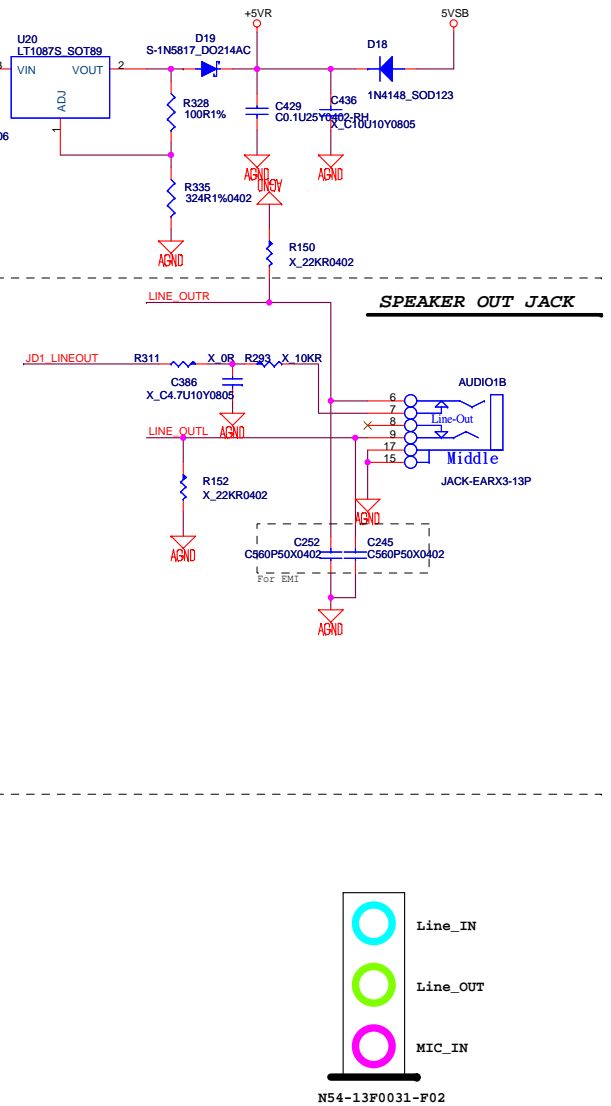
Micro Star Restricted Secret		
Title	PCI Connector 1 & 2	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO., LTD. No. 68, Li-Po St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		
Last Revision Date: Thursday, August 03, 2006		
Sheet	19	of 33

PCI Connectors



Micro Star Restricted Secret		
Title	PCI Connector 3	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO., LTD. No. 68, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006
Sheet	20	of 33

AUDIO CODE REGULATORS



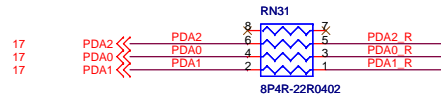
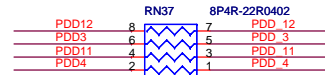
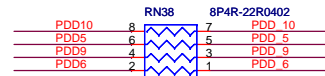
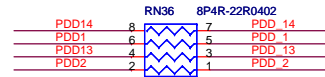
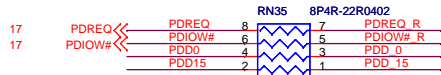
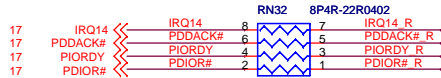
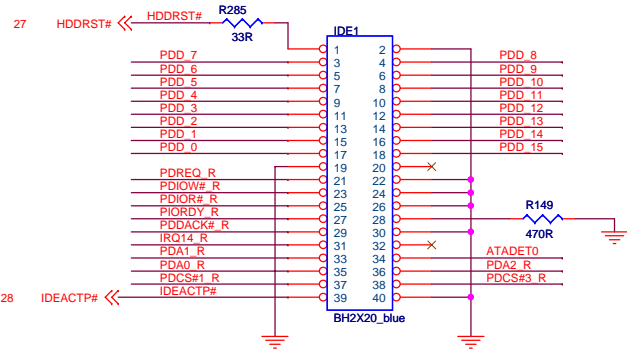
N54-13F0031-F02

<i>Micro Star Restricted Secret</i>		
Title	PCI Connector 3	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO., LTD. No. 89, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Tuesday, August 08, 2006 Sheet 21 of 33

ATA 33/66/100 Connector

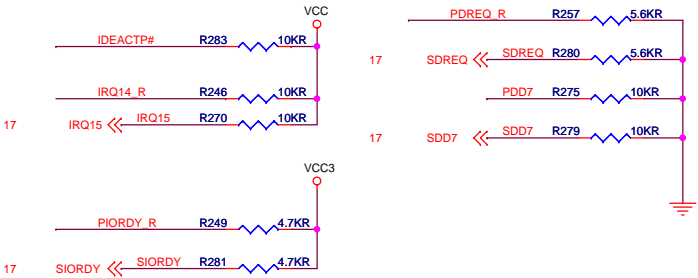
17 PDD[15..0] << PDD[15..0] NEAR S.B SIDE

PRIMARY IDE CONN.



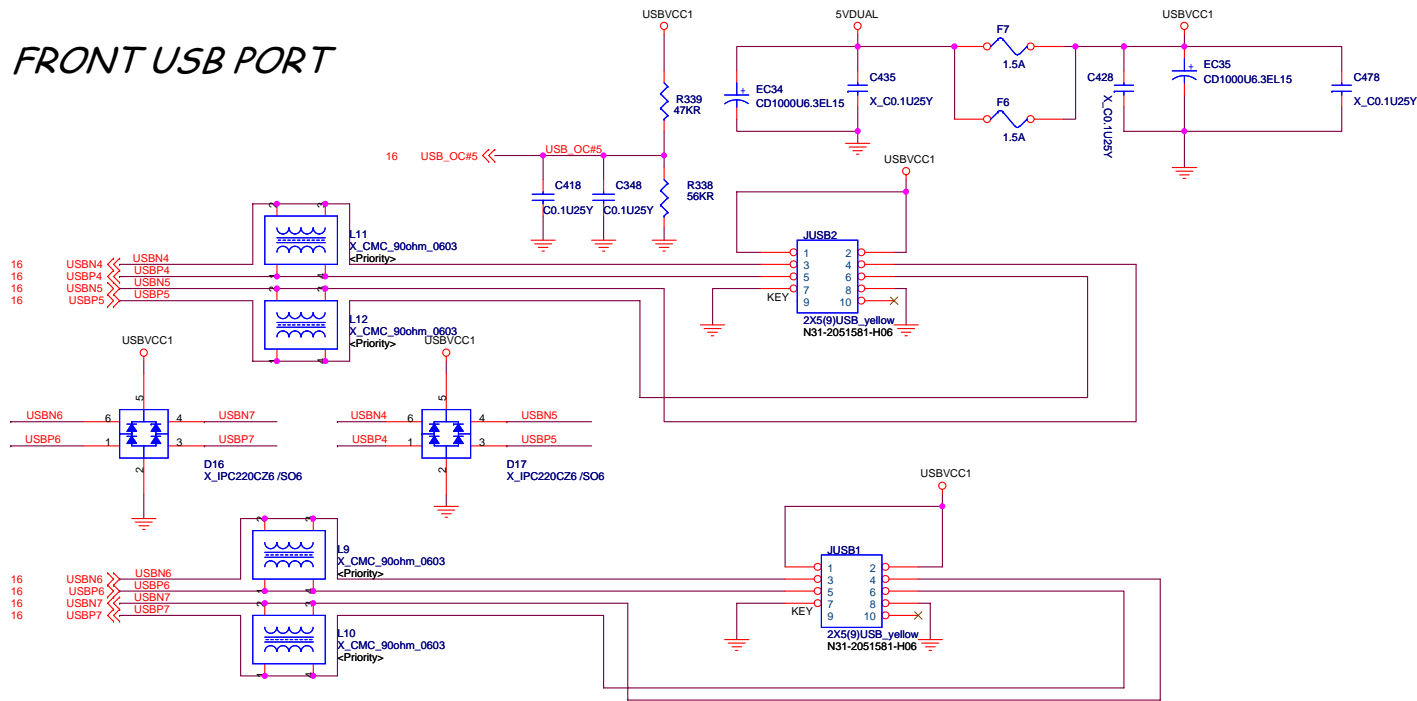
Near SB < 1" (or Damping Rs)

17 ATADETO << ATADETO



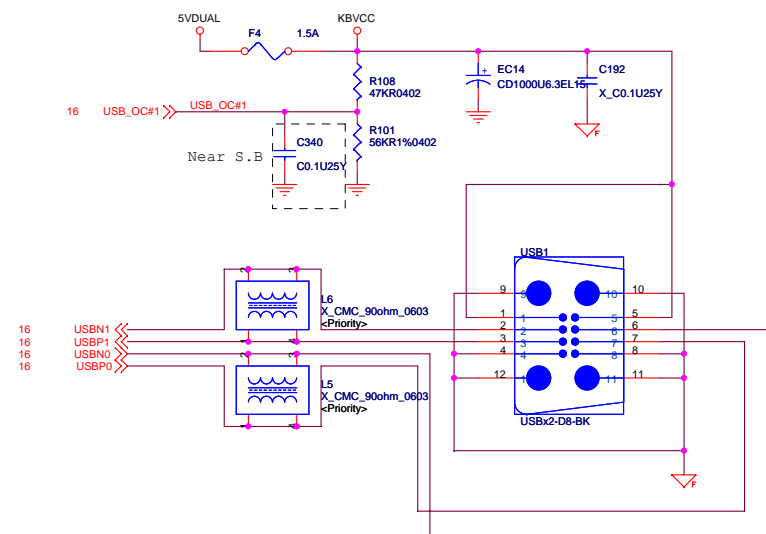
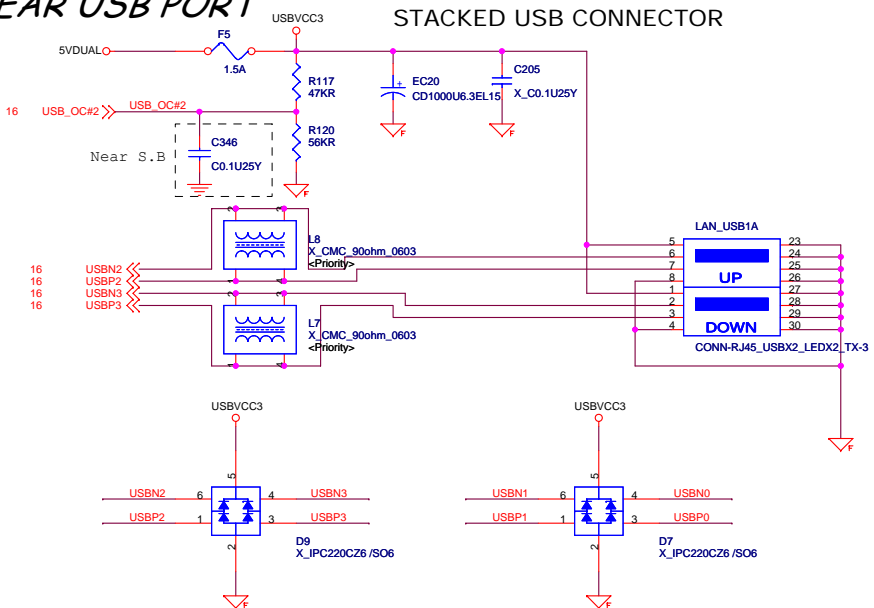
Micro Star Restricted Secret		
Title	ATA 66/100/133 Connector	Rev 10
Document Number	MS-7312	
MICRO-STAR INT'L CO.,LTD. No. 68, Li-Po St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006 Sheet 22 of 33

FRONT USB PORT



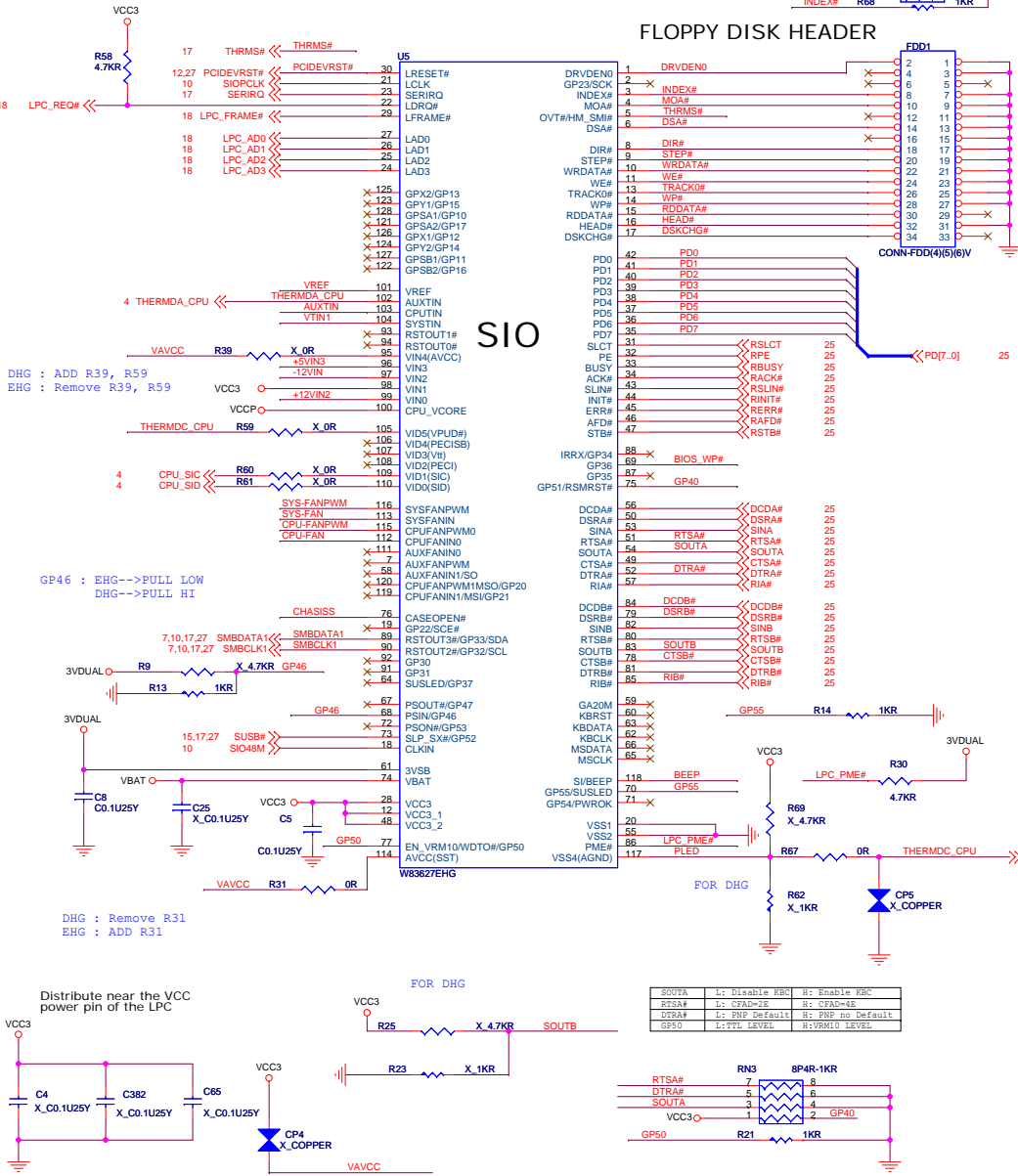
REAR USB PORT

STACKED USB CONNECTOR

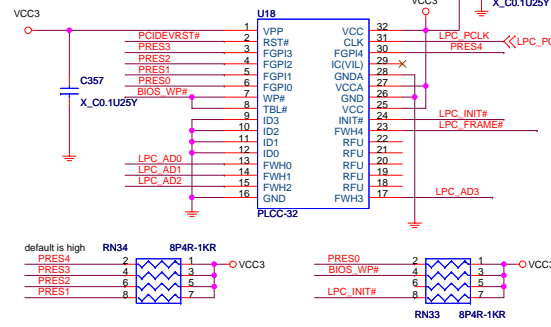


<i>Micro Star Restricted Secret</i>			
Title			Rev
USB Port			10
Document Number		MS-7312	
MICRO-STAR INT'L CO. LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Friday, August 04, 2006 Sheet 23 of 33	

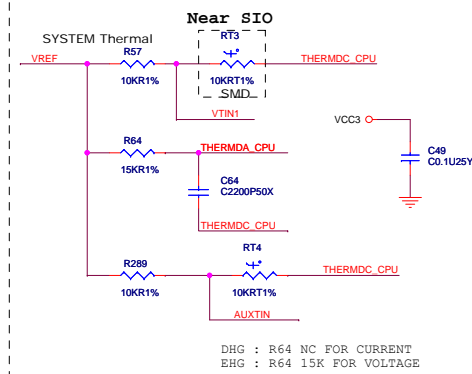
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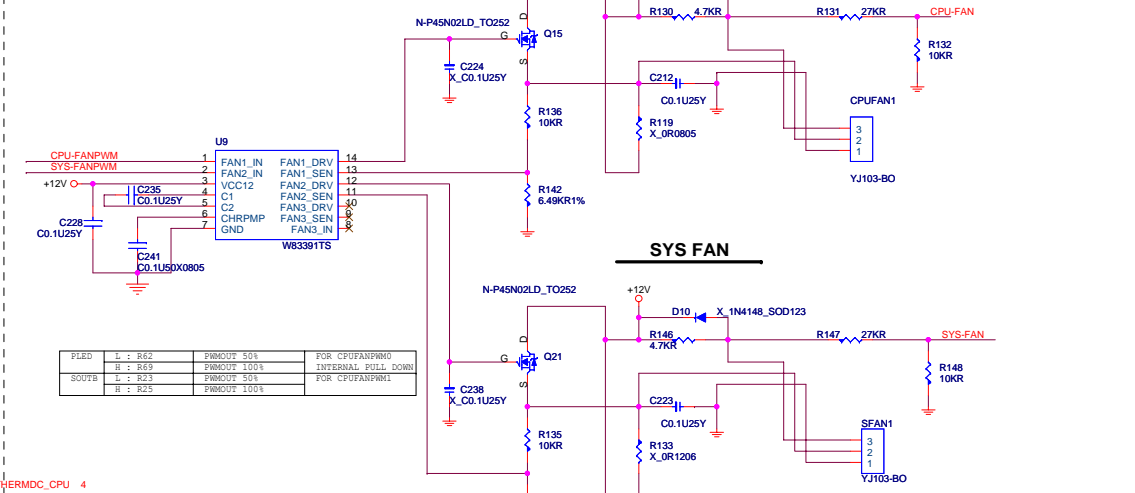
SYSTEM ROM



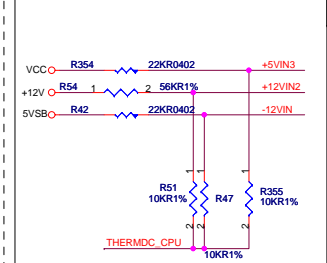
Hardware Monitor



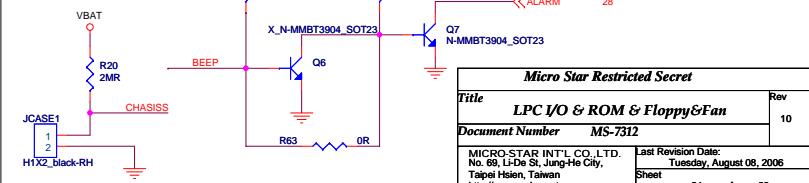
FAN CONTROL



Voltage Detect

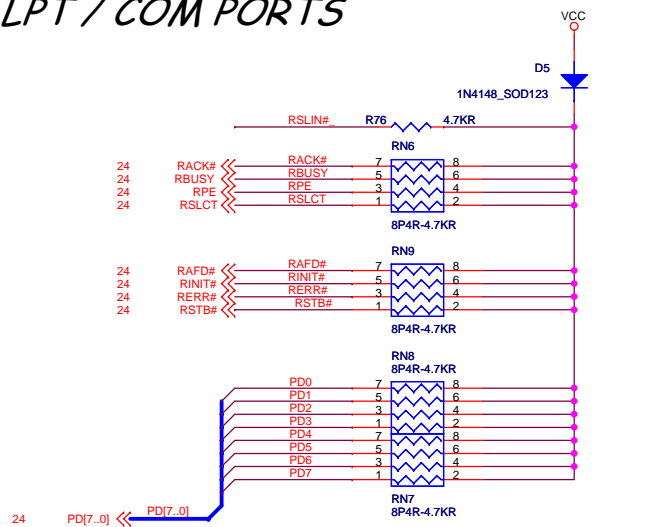


Chassis Intrusion Header

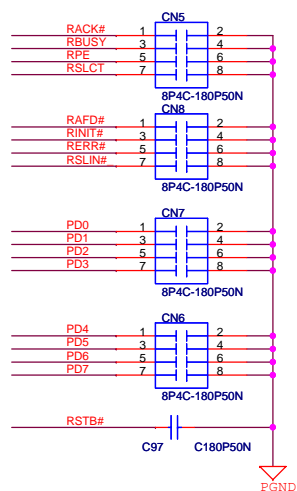


Micro Star Restricted Secret			
Title		Rev	
LPC I/O & ROM & Floppy&Fan		10	
Document Number		MS-7312	
MICRO-STAR INT'L CO., LTD.		Last Revision Date:	
No. 69, Lifu St., Jung-Ho City,		Tuesday, August 08, 2006	
Taipei Hsien, Taiwan		Sheet	
http://www.msi.com.tw		24 of 33	

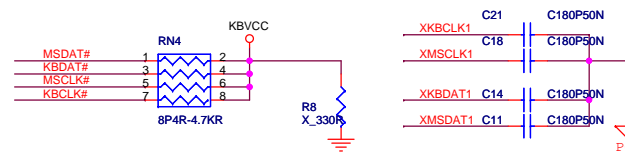
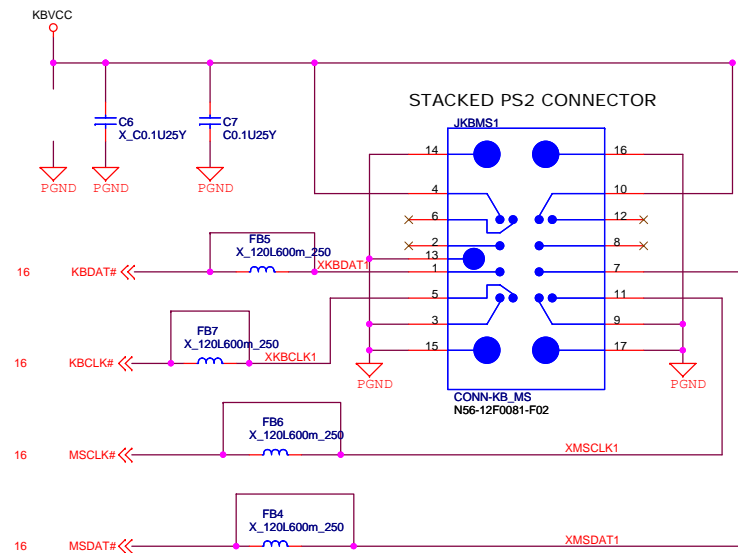
LPT / COM PORTS



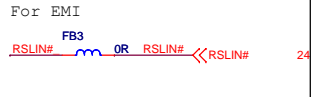
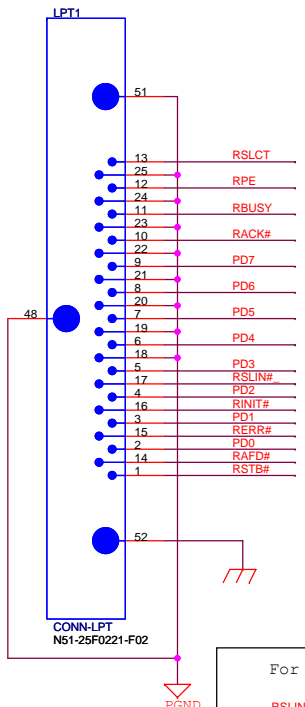
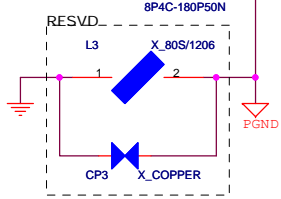
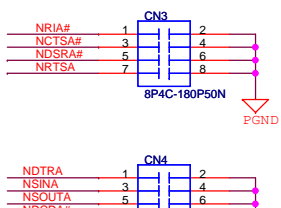
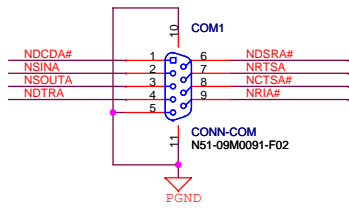
For EMI



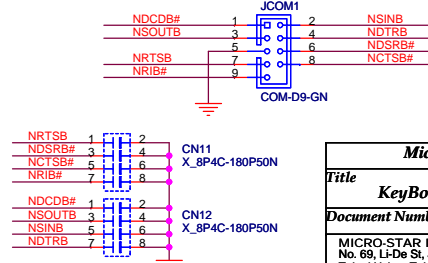
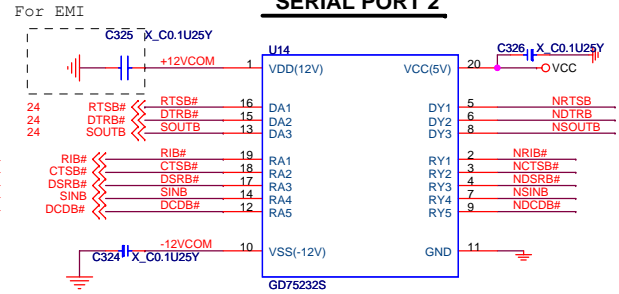
Keyboard/Mouse Ports



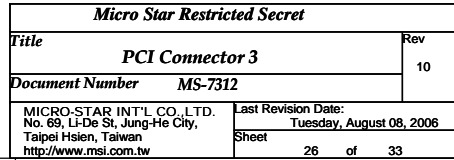
Multiple RS232 Drivers and Receivers



SERIAL PORT 2



Micro Star Restricted Secret		
Title	KeyBoard/Mouse/LPT/COM	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO.,LTD. No. 68, Li-Po St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Friday, August 04, 2006
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LINEAR MODE

THESE OUTPUT AND INPUT PIN MUST BE PULL HIGH

ALL_PWRGD 4,18 --- CHIP_PWR_GD OUTPUT
SMBCLK1 7,10,17,24 --- I2C BUS
SMBDATA1 7,10,17,24 --- I2C BUS
RSMRST# 18 --- CONNECT TO SOUTH BRIDGE RSMRST# SIGNAL
SUS# 17 --- SOUTH BRIDGE POWER CONTROL (SLP_S4# OR SUSB#) SIGNAL
SUSB# 15,17,24 --- SOUTH BRIDGE POWER CONTROL (SLP_S3# OR SUSC#) SIGNAL
PW_OK 28 --- ATX POWER OK INPUT

VDIMM LINEAR OR PWM SELECT

VDIMM MODE	EXTRAM
LINEAR REGULATOR	PULL LOW
PWM REGULATOR	PULL HIGH

FRONT PANEL RESET BUTTON
PCIRST# INPUT
PCIRST# BUFFER OUTPUT

PCI SOLT PCIRST# BUFFER OUTPUT

WATCHDOG TIMER SELECT

WD_DET	TIMER
PULL LOW	OFF
PULL HIGH	ON

THE TWO MODE ONLY ONE MODE PRESENT
SINGLE MODE
DUAL MODE

THIS MODE SELECT BY PIN 47 PULL HIGH 5VSB

THIS MODE SELECT BY PIN 47 PULL LOW

THE VDIMM_HSEN IN LINEAR MODE

DDRTYPE	VDIMM_HSEN
DDR	VREF
DDR	2.6V
DDR	1.7V

3VSB REGULATE BY 5VSB AND VCC3

DDR TERMINATION

RAM_REF

VTT_DDR

VREF2

ENABLE

VCNTL

BOOT_SEL

W83310DS_S08

C137

C0.1U25Y

EC6

CD1500U6.3EL15

EC8

CD1000U6.3EL15

EC3

CD470U6.3EL11

C95

C0.1U25Y

VTT_DDR

VREF1

VCNTL

ENABLE

VREF2

W83310DS_S08

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C0.1U25Y

EC6

CD1500U6.3EL15

EC8

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C0.1U25Y

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VREF2

W83310DS_S08

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EC8

CD1000U6.3EL15

EC3

CD470U6.3EL11

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C0.1U25Y

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VREF1

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VREF2

W83310DS_S08

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EC3

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VTT_DDR

VREF1

VCNTL

ENABLE

VREF2

W83310DS_S08

C137

C0.1U25Y

EC6

CD1500U6.3EL15

EC8

CD1000U6.3EL15

EC3

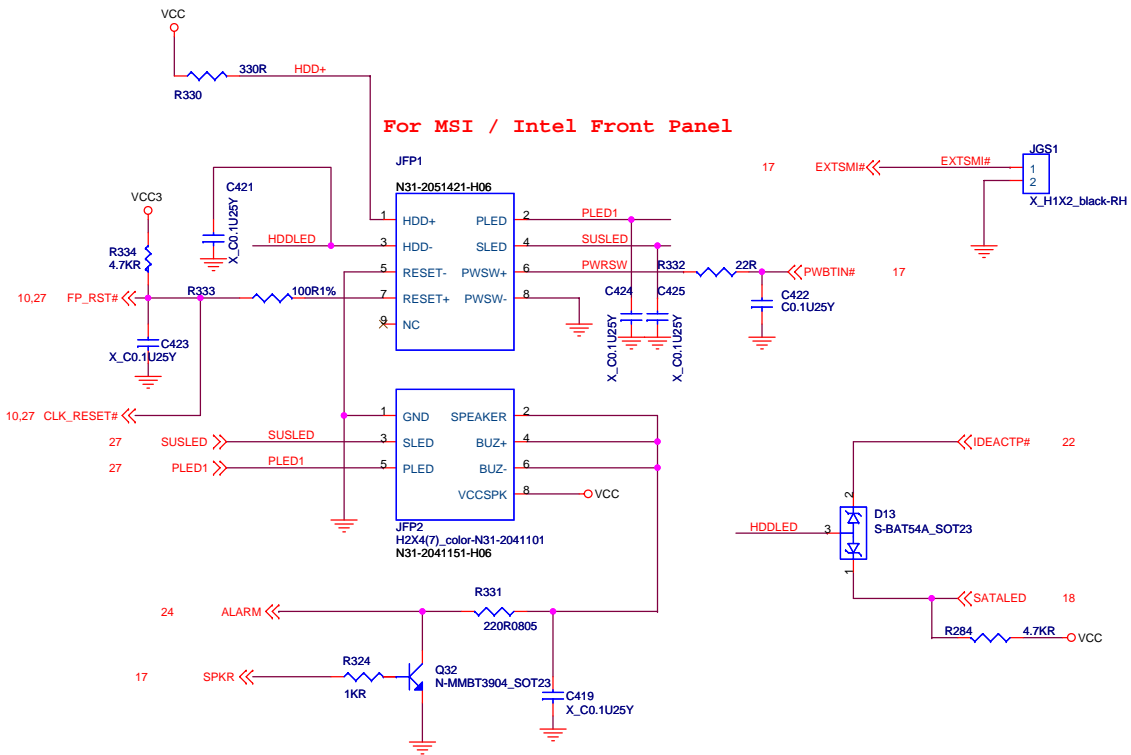
CD470U6.3EL11

C95

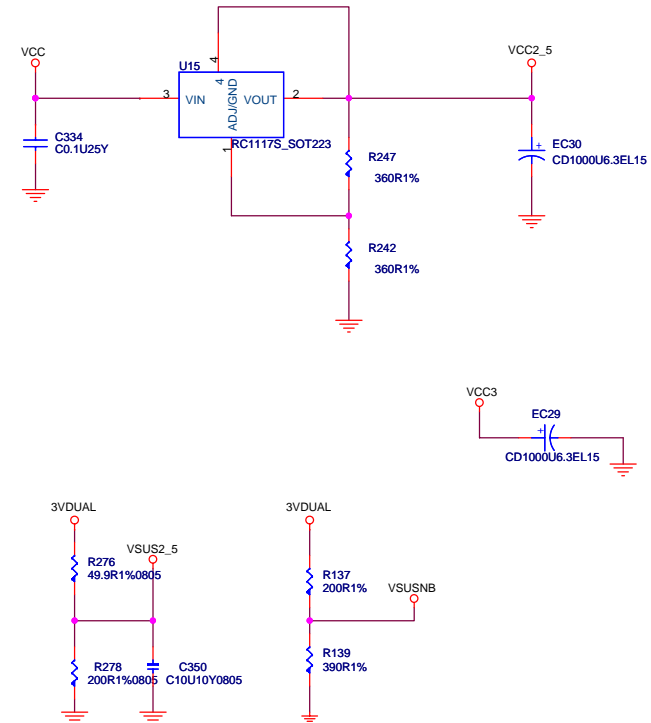
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V

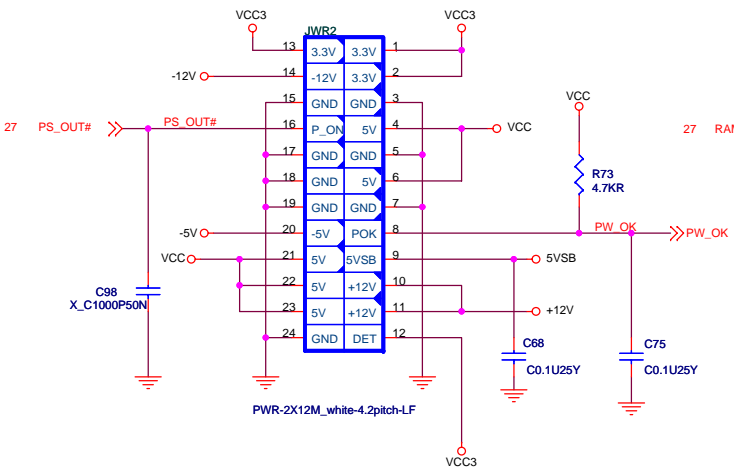
FRONT PANEL



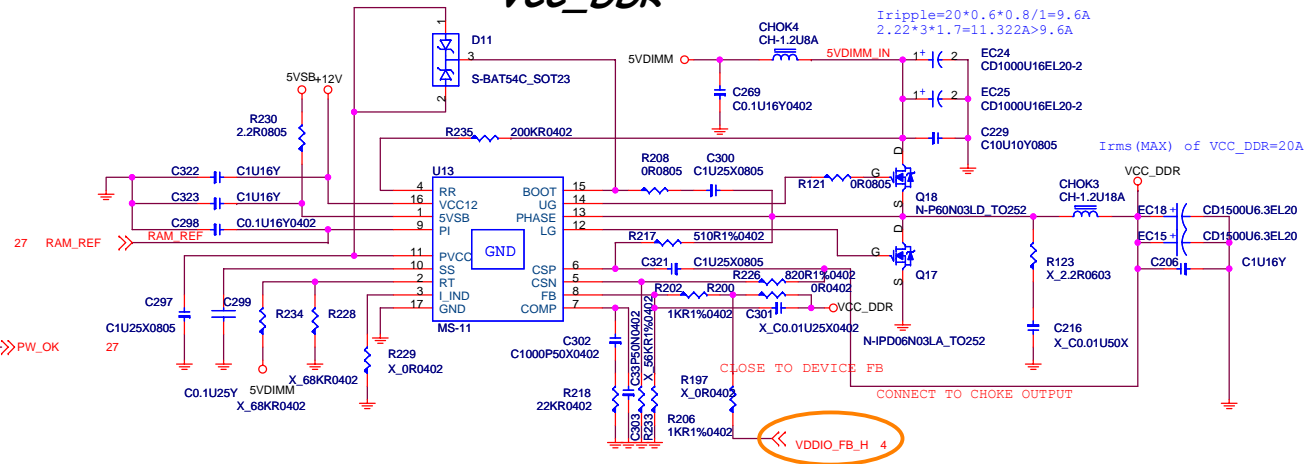
System Voltage Regulator



ATX Power Connector



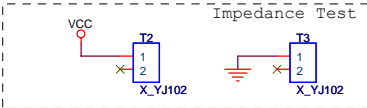
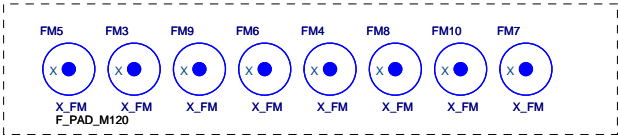
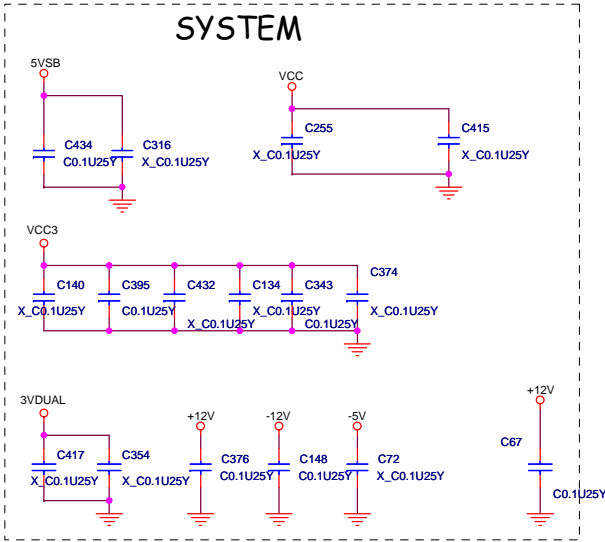
VCC_DDR



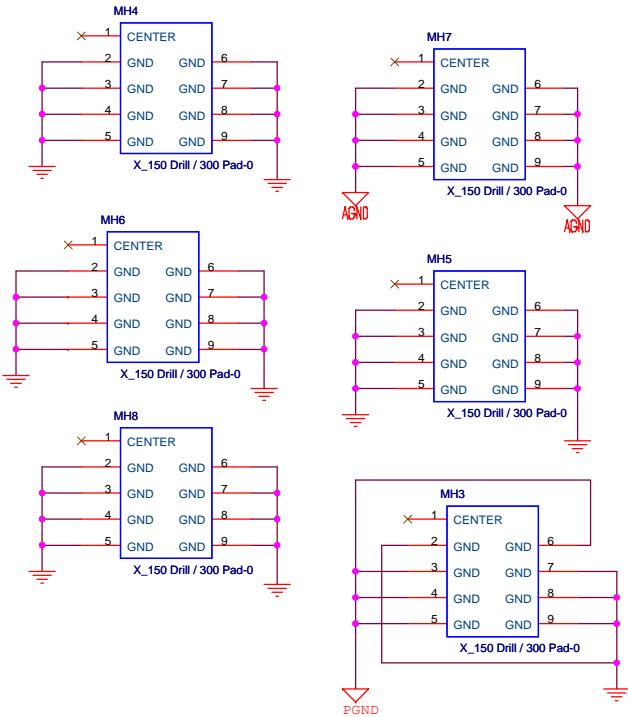
Micro Star Restricted Secret		
Title	System Regulator&Front Panel	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO.,LTD. No. 69, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Friday, August 04, 2006 Sheet <div style="display: flex; justify-content: space-between;"> 28 of 33 </div>

BULK / Decopuling

Place on CPU Solder side



ATX VIA-Hole * 9



Micro Star Restricted Secret		
Title	BULK / Decopuling	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO.,LTD. No. 68, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006
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K8 AM2 CPU Power

NB & SB Power

Other Power

CPU Side

DDR Side

K8 Vcore ->
"VCORE" (95A)

VDDA_2.5 Power ->
"VDDA_25" (0.11A)

HT Power ->
"VDD_12_A" (0.5A)

DDR Power ->
"VCC_DDR(1.8V)"
(9.4A)

DDR-VTT Power ->
"VTT_DDR(0.9V)"
(1.2A)

NB VLDT-Power ->
"VDD_12_A" (0.15A)

NB VDD&VAGP ->
"VDDQ" (1.5A)

SB VLINK&VCORE-Power ->
"VCC2_5" (0.576A)

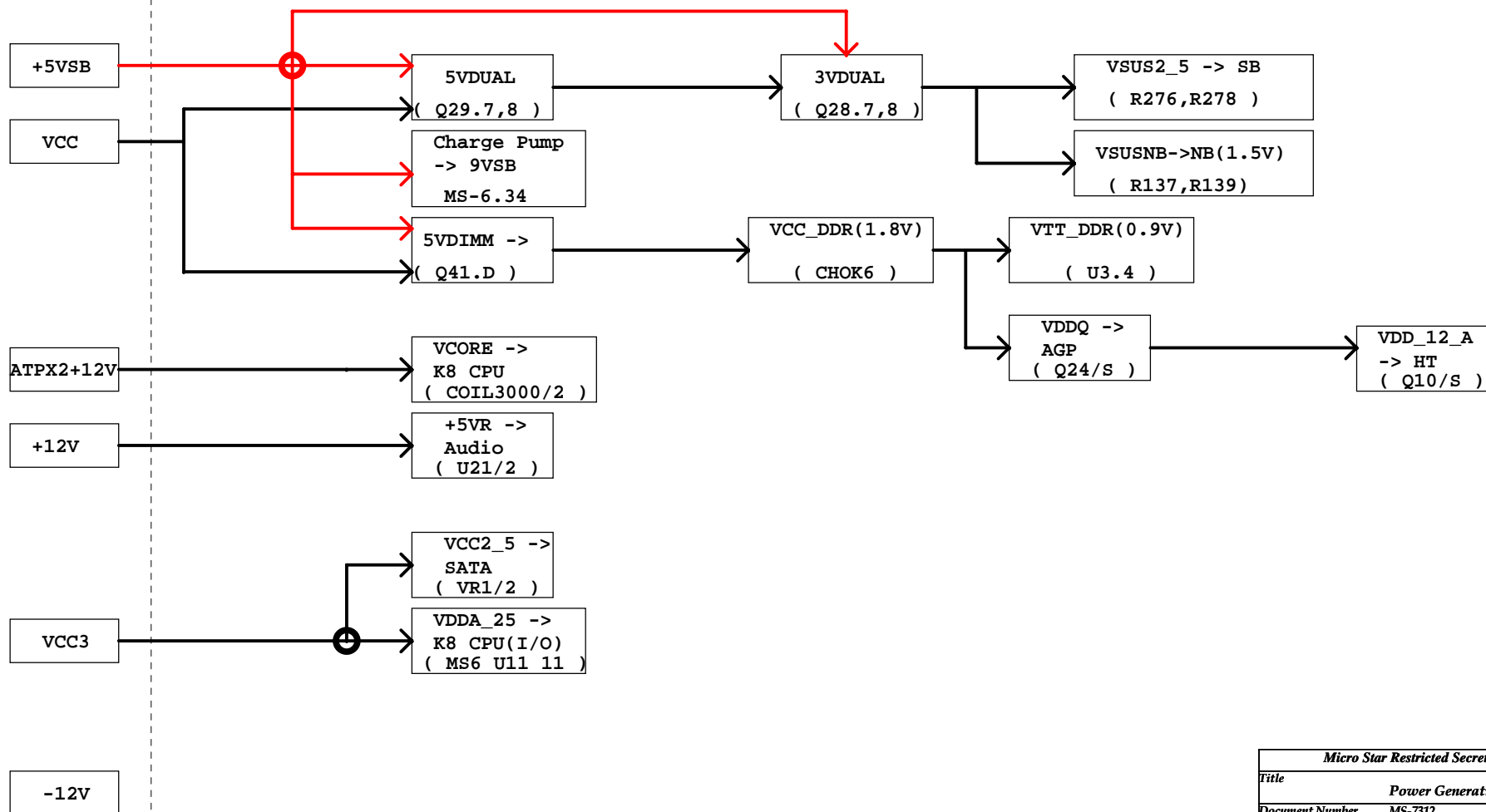
SB VSUS-Power ->
"VSUS2_5&VSUSNB" (0.0675A)

5VDUL

3VDUL

9VSB

ATX Power Supply



Micro Star Restricted Secret

Title		Rev
Power Generation		10
Document Number	MS-7312	
MICRO-STAR INT'L CO.,LTD. No. 68, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006
Sheet	30	of 33

Ver. 0A Copy from 7142

CHANGE TO AM2 CPU

Ver. 10

- 1.CHANGE JUSB1.2 PART NUMBER.AND FOOTPRINT
- 2.CHANGE IDE1 PART NUMBER.
- 3.CHANGE JCOM1 FOOTPRINT JFP1
- 4.CHANGE ATXPOWER TO 24 PIN
- 5.CHANGE JAUDIO1 FOOTPRINT JAUD1 FOR 防呆
- 6.DEL R161 FOR CLK GEN. RESET TO 3.3V LEVEL
- 7.CHANGE R176 TO 0 FOR REALTEK CLK GEN. PIN32 IS THE POWER PIN NOT PD#,BUT ICS CLK GEN. IS THE PD#
- 8.ADD Q35,R350~R353,C476 FOR DDR2 POWER MEET 1.8V
AND CHAGNE C299 0.22U TO 0.1U FOR DDR2 POWER POWERUP FAST
- 9.DEL R27, AND U3 7407 CAN'T BE USE .BECAUSE NB LDTRST ONLY 1.5V CAN'T DRIVER 7407,7407 Vih 1.65 V
AND ADD Q36, R27,R359 FOR LEVEL SHIFT
- 10.CHANGE RN3 FROM 4.7K TO 1K FOR WINBOND STRAP
- 11.ADD C477 0.1UF FOR PME# WHEN YOU PLUG THE CARD INTO THE PCI SLOT ,CAN'T AUTO POWER ON.
- 12.ADD R354,R355 FOR VCC5 MONITOR
- 13.R42 CHANGE FORM 232K TO 22K0402 ,AND MONITOR FORM -12V TO 5VSB FOR VOLATGE MONITOR
- 14.CHANGE 3VELEDC# TO PULL HIGH. R190 STUFF ,R194 EMPTY FOR MEET AM2 POWER SEQUENCE
- 15.ADD D18 FOR WINDOWS SHOUT DOWN HAVE A 'BO' POP NOISE
- 16.CHANGE Q20 DRAIN PIN FROM VCC3 TO VCC_DDR FOR Q20 THERMAL
- 17.R3->NC.R16->1K.R44,45,48->12K.R33->1.8K,Q5,10,13->NC FOR 89W
- 18.CHANGE FDD FOOTPRINT FDD_CONN_NP456
- 19.DEL COPPER 11,18,19 ,21,AND C345 EMPTY FOR AUDIO NOISE
- 20.DEL R289,R291,R292
- 21.CHANGE LAN LED GREE LED TO SPEED,ORANGE TO LINK.
- 22.ADD RT4 R289 FOR WINBOND CPU THERMAL UNSTABLE.
- 23.CHANGE CPUTHERMAL TO THERMAL DIODE.

Micro Star Restricted Secret		
Title	History	Rev
Document Number	MS-7312	10
MICRO-STAR INT'L CO.,LTD. No. 68, Li-De St, Jung-Ho City, Taipei Hsien, Taiwan http://www.msi.com.tw		Last Revision Date: Thursday, August 03, 2006
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NB FAN/HEAT-SINK

U7-F



X_NB-HEATSINK-W/Fan

U7-H



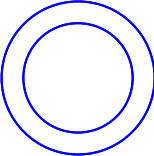
NB-HEATSINK-W/O Fan
E31-0401520-E25

PCB1



7312-0A
P80-0731210-D05

VBAT1_M



BAT-BCR2032P
D06-0100101-P01

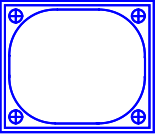
BIOS FLASH ROM

U18_M



LPC Flash ROM-4M

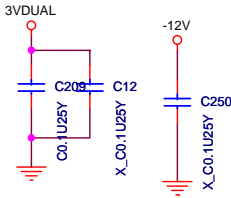
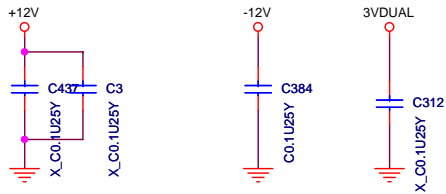
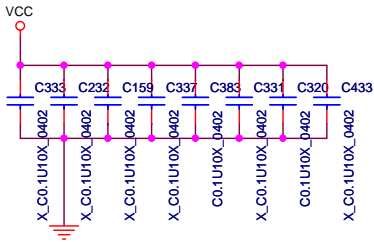
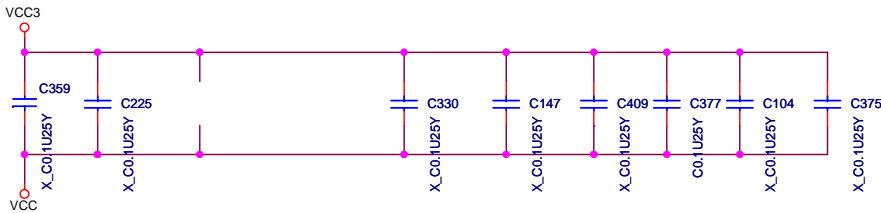
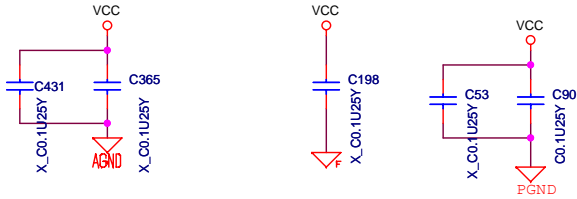
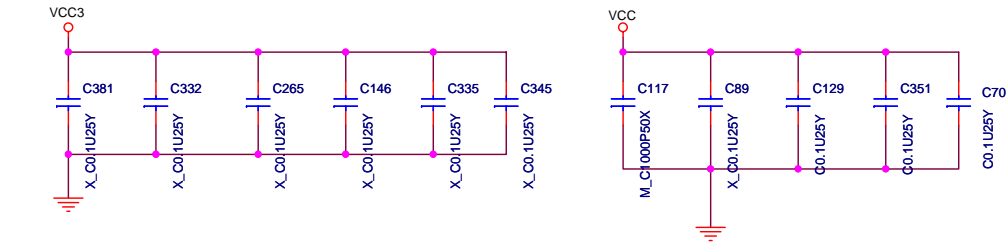
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